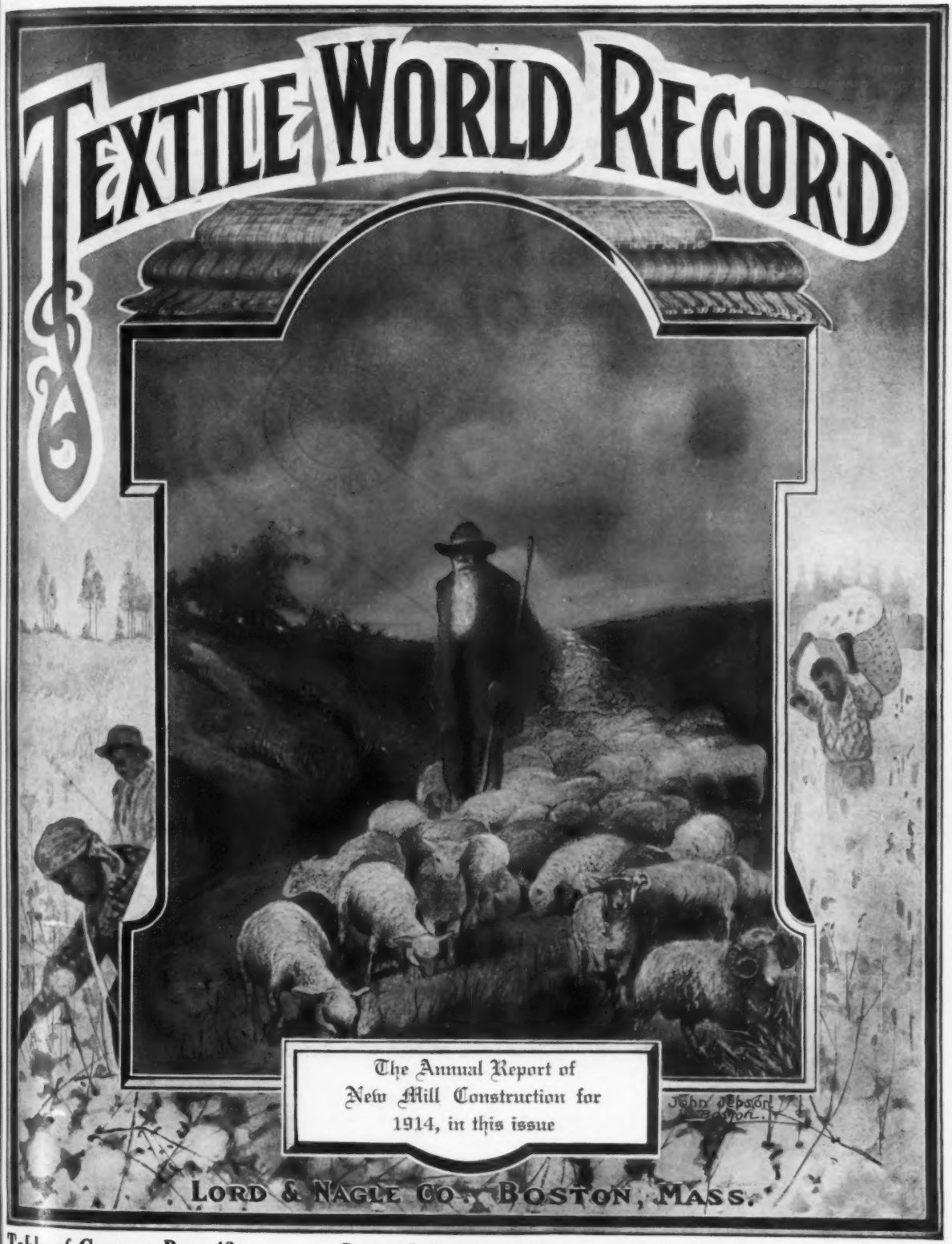
Number 3
Volume XLVIII

DECEMBER, 1914

$2.00 per year
$3.00 with Directory

TEXTILE WORLD RECORD



The Annual Report of
New Mill Construction for
1914, in this issue

LORD & NAGLE CO., BOSTON, MASS.

Table of Contents Page 43

Buyers Index Page 147

Index to Advertisements Page 157

The TEXTILE-FINISHING MACHINERY CO.

Howard Building, Providence, R. I.

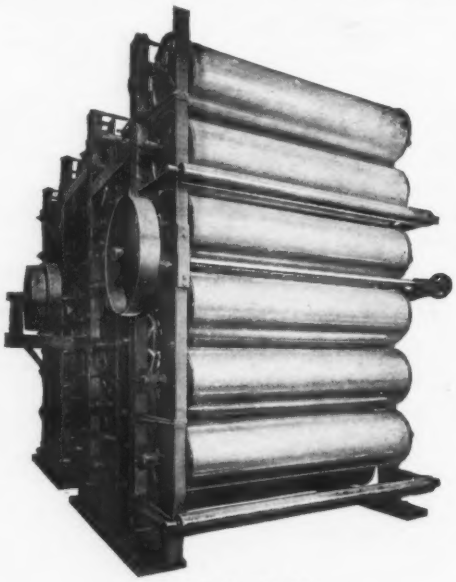
BUILDERS OF

Singeing, Bleaching, Mercerizing, Dyeing, Drying, Printing and Finishing Machinery

FOR

TEXTILE FABRICS AND WARPS

Plans and Estimates for Complete Plants



Upright Drying Machine

ALL KINDS OF

Horizontal and Upright Drying Machines

With cylinders made from either the best English tinned iron or best Lake Superior sheet copper, fitted with our

Patent Spiral Scoops

Bleaching Kiers with Patent Circulators

FOR

Raw Stock, Yarn, Woven and Knit Goods

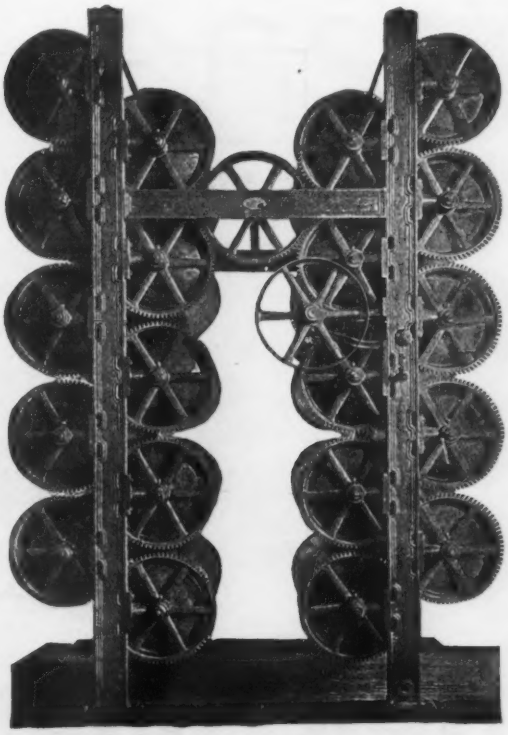
Bleaching,

Dyeing,

Drying,

Finishing,

Machinery



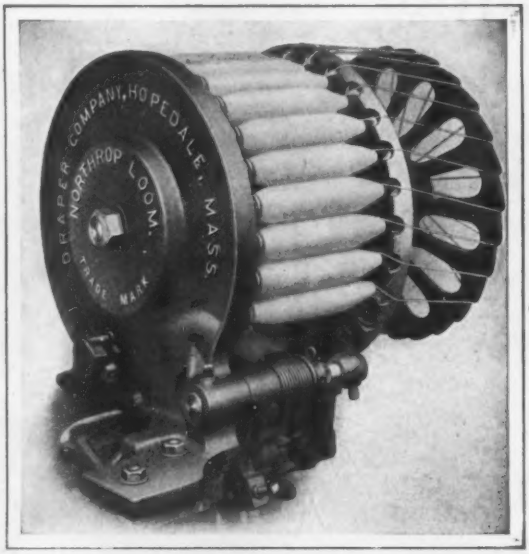
20-Cylinder Drying Machine

for all kinds of textile fabrics

H. W. BUTTERWORTH & SONS CO.

PHILADELPHIA, PA.

PROVIDENCE OFFICE, Room 417 Industrial Trust Building



NORTHROP LOOMS

TRADE MARK REGISTERED

INCREASE EARNING CAPACITY OF THE WEAVE ROOM WEAVERS

DRAPER COMPANY

HOPEDALE MASS.

THE BEST

NORTHROP LOOM BOBBINS

AND

SHUTTLES

ARE MADE BY

Northrop Loom Manufacturers

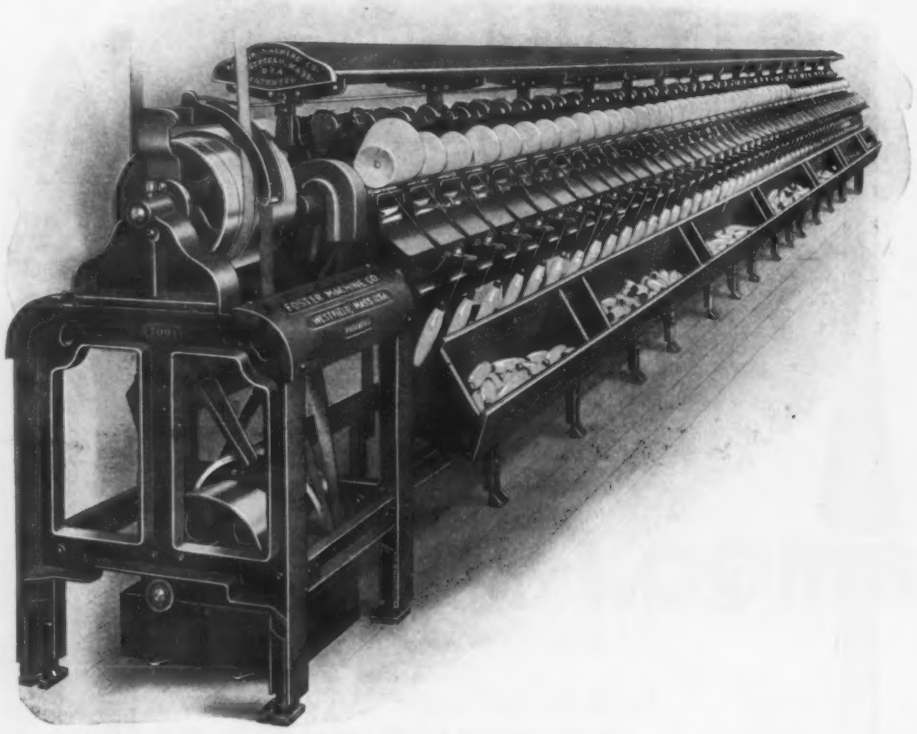
Look for our name on your Bobbins and Shuttles

DRAPER COMPANY

Hopedale Mass.

J. D. CLOUDMAN Southern Agent 40 So. Forsyth St. Atlanta Ga.

The Foster Model 30



The Model 30 Cone Winder has every good principle of former Models incorporated in it. In addition, the new Model is more flexible of adjustment and may be set to produce finished cones of much greater taper than former Models, although paper cones of the same or lesser pitch are used.

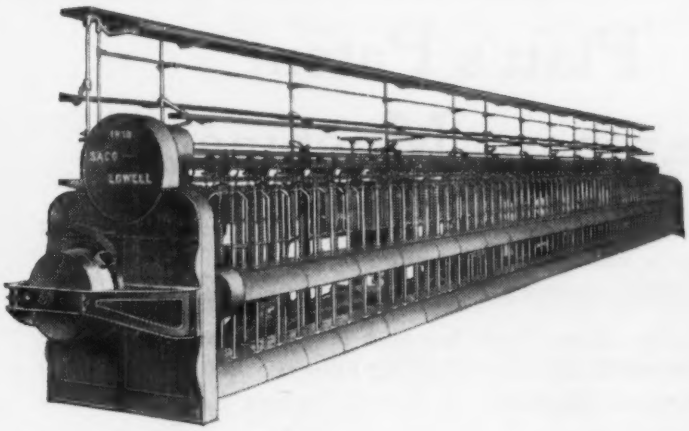
Foster Machine Company

Westfield, Massachusetts

JOHN HILL, Southern Agent, 1014 Healey Bldg., Atlanta, Ga.

Saco-Lowell Shops

TEXTILE MACHINERY



Shops—
Lowell, Mass.
Biddeford, Maine
Newton Upper Falls, Mass.

Executive Offices—
77 Franklin Street
Boston, Mass.

Southern Agent, ROGERS W. DAVIS,
Charlotte, N. C.

COMPLETE COTTON MILL EQUIPMENT
Including:
Pickers
Cards
Drawing
Evener Drawing
Roving
Spinning
Twisters
Slashers
Spoolers
Reels
Winders
Warpers
Looms

WASTE RECLAIMING MACHINERY

WORSTED MACHINERY
Including:
Revolving Creels,
Gill Boxes
Drawing Frames,
Reducing and Roving Frames,
Cap Ring and Flyer Spinning and Twisting Frames
Jack Spoolers

Utilizing Cotton Waste

PROBABLY not in the history of the United States has there been a better opportunity than at the present time for the use of the Barchant System for working up low grade cotton and cotton waste.

Few manufacturers realize what a variety and excellent quality of goods can be produced from comparatively low grades of waste on

Platt's Patent Barchant Machinery

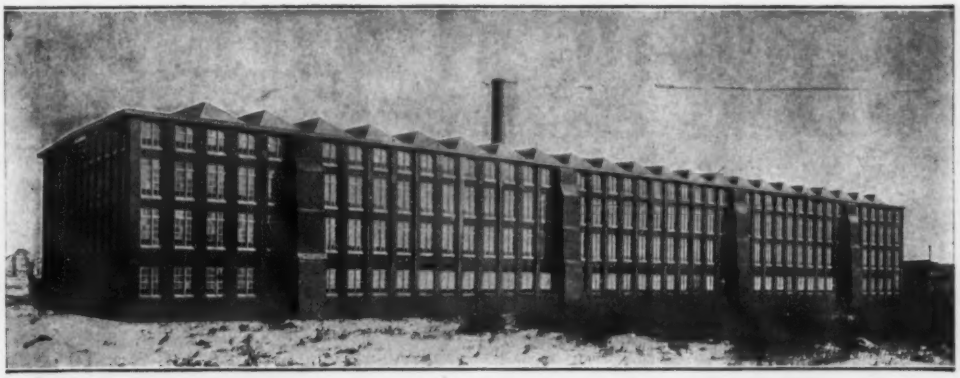
which has been specially designed for the production of the highest grade of yarns for use in the manufacture of imitation woolen blankets, robes, Mackinaw cloth and low count knitting yarns, etc.

Up to now this class of trade has been largely monopolized by the Germans where practically all the leading firms producing these goods have Platt's Barchant Machinery, but with German competition now entirely eliminated—probably for several years—and the mills in England equipped with Platt's Barchant Machinery working to their fullest capacity, (largely on army and hospital work for the British Government,) there is every opportunity for manufacturers here to go into this class of trade.

As sole representatives in the United States and Canada for Messrs. Platt Brothers, who are the makers of the Barchant System, we are prepared to completely equip plants and give full information in connection with their operation.

Leigh & Butler

232 Summer Street, Boston, Mass.



Sharp Manufacturing Company, New Bedford, Mass.

There is this much about it—when a textile plant is

"Carrier Equipped"

there is no reason in the world why it can't compete with any other plant, anywhere, on any grade of yarn or fabric. Have you seen our catalog? It's free.

Carrier Air Conditioning Co.

Of America

No. 39 Cortlandt Street, New York City

NEW ENGLAND
176 Federal Street
Boston

CHICAGO
Ft. Dearborn Bldg.
Clark and Monroe Sts.

PHILADELPHIA
734 Real Estate Trust Bldg.

BUFFALO, 490 Broadway

COTTON MILL MACHINERY

Carding Spinning

Drawing Weaving

Executive Office, 77 Franklin Street, Boston, Mass.
Arthur R. Sharp, Treas.; Thomas G. Cox, Agent

Southern Office, Greenville, S. C., Edwin Howard

Works at Taunton, Mass.

"The difference in appearance is almost beyond imagination, a full gloss-like tile replacing a dingy and insecure flat coating."
—Greylock Mills, North Pownal, Vt.

Test it out yourself, under our guarantee

No matter what interior finish now covers your walls and ceilings; no matter whether you use a cold-water paint, or a gloss varnish paint—

You can easily prove to yourself that Rice's Gloss Mill-White will give 19% to 36% more daylight; will save you money, in making repainting less frequent; will not crack or scale; and will be more sanitary.

Apply Rice's in a section of your plant, where a fair comparison can be made with the interior finish you now use.

Rice's Gloss Mill-White is the original "mill-white." All others are imitations. It is the *only* mill-white which contains no varnish. For that reason we *guarantee* that if Rice's does not remain white longer than any other gloss paint —applied at the same time and under the same conditions—*we will give, free, enough Rice's to repaint the job with one coat.* We also guarantee that, properly applied, Rice's will not flake or scale. You cannot lose under this guarantee.

Rice's Mill-White has been subjected to many such comparative tests by some of the largest concerns in the country. Over 3,000 firms use and praise this interior finish. One of its striking conveniences is that it can be applied over old cold-water paint.

Write for Booklet, "More Light," and Sample Board. Write Today

On concrete surfaces

On inside concrete Rice's Granolith makes the best possible primer for a second coat of Rice's Gloss Mill-White—giving a tile-like enamel finish at no more expense than lead and oil paint.
Rice's Granolith

RICE'S GLOSS MILL-WHITE

U. S. GUTTA PERCHA PAINT CO.
20 Dudley Street, Providence, R. I.

Sold direct from factory

Rice's Mill-White is sold direct from the factory in barrels containing sufficient paint to cover 20,000 square feet—one coat.

Parks' Piping Parables

The high cost of commonsense is the cause of a lot of the high cost of living, of legislation, and of labor

A New Brand of Purchasing Agent.

I didn't suppose he existed—a new species of purchasing agent that I done heard about.

He buys his coal on the amount of heat units per ton. Lowest price per heat unit is what interests him, not the lowest price per pound or bulk.

He buys his belting on a performance basis.

He has all the stuff he buys analyzed in a laboratory for ingredients and in the factory for performance.

He says Parko Air Cleaning hose is cheaper than the common garden variety notwithstanding a higher price.

Because it wears.

That kind of buying is going to become more prevalent:—even for piping.

I know that is so, because this organization is going to prove to you that it is a sound basis on which to buy it.

Just now this is a buyer's market. You have all the advantage, and I'm not the one to criticize if you take advantage of it—because I do a little buying myself.

But advantages swing back and forth just like a pendulum. Someday you'll need us. Just now we need you.

But let's pursue a buying-for-result policy.

Engineers and Contractors at the Same Time.

You may think it a straddle on our part to try to occupy the dual position of engineer and contractor all at the same time.

And I want to tell you the reasons that have led up to it.

As a matter of fact we were always engineers—to a greater or less degree. The only difference between our present position and our earlier is how to make the laborer—or in this case the engineer—worthy of his hire.

And get paid for it.

Simply because the service rendered has become more and more expensive and is either worth charging for—or quitting.

Let me cite a particular case and see if you don't agree with me.

Sometime ago we were asked to submit a bid on a considerable job of piping. The customer had no plan—and no engineer for his piping lay-out. In order to give an intelligent estimate, we had to send an engineer to the mill.

Even the car fares were no small item.

But add to this the salary of the engineer—his hotel bills and the work put in on this job by our engineering department cost a lot of money.

Our Platform is This.

If you have a heat unit problem of such importance or size that you can't solve it yourself — hire an engineer.

You can hire us if you want to—or if you don't, we can send you the names of several and you can deal with them.

Unquestionably we would like the business, but not unless you believe our position to be fair.

Someday you will pay for your estimating information as you are now your engineering. When you do you will be the gainer.

We take the chance of having estimated enough so as to be able to get a profit. We take the chance of having estimated too much so you will not buy.

We take the mechanical chance of making the job work—and sometimes we take the chance of getting the money.

I submit that while it may be pioneer work to try to shake off precedents, that are as fast as barnacles to a ship—that concern will serve you best who eliminates all the elements of chance from its business.

PARKO

The G. M. Parks Company, Fitchburg, Massachusetts

Humidifying, Heating and Ventilating

The more we develop the humidifying business the more we come back to the notion that humidifying, like a lot of other mill problems, is really engineering.

At first the application of the Turbo came in mills where the problem of heating was in a measure solved—and ventilation not apparently needed—or at least not desired.

So our main text was humidifying. We have told you, however, that there was a rather closer relationship to humidifying, heating and ventilating than perhaps any of us suspected, and we renew our statement that we can and will engineer along all three lines—we have done so already.

We believe there is a distinct field for the direct application of humidity, and the direct application of heat, and that it is expensive to heat and humidify from or with a ventilating system.

Nevertheless, we agree that there is a distinct field for ventilation and that the demand for it is likely to grow greater rather than less.

Our idea from the standpoint of original cost and cost to operate, is to make the whole matter one of engineering in which direct humidification, direct heating and ventilation are so worked out that all the beneficial results of the three are secured; without undue expense.

Plain humidifying costs the least.

Humidifying with compressed air cleaning as a by-product costs a little bit more. Not much if the Turbo system is used.

Humidifying, plus air-cleaning, plus direct heating, still more.

Humidifying, plus air-cleaning, plus direct heating, plus ventilation, still more.

You may have all or only one. But we feel sure that being the only firm geared up to install all these things under one contract, we can combine them and give you better results than would be possible with separate contractors.

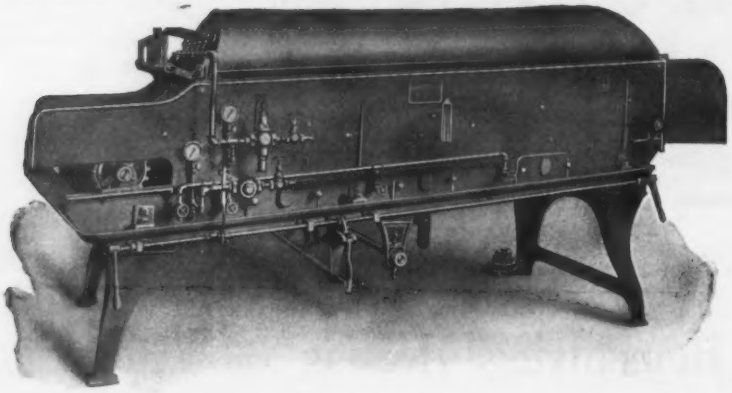
The G. M. Parks Company

Fitchburg, Mass.

Southern Office, 200 Commercial Bank Building, Charlotte, N. C. **J. S. COTHRAN, Mgr.**

The Yarn Conditioning Machine

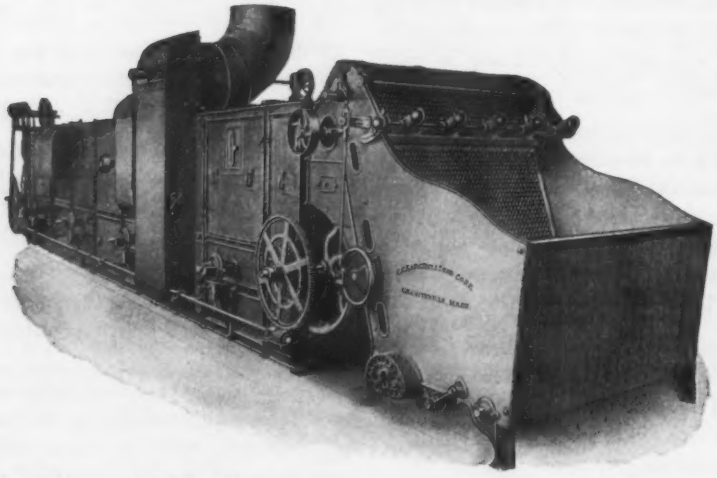
Sets the twist in your filling and overcomes kinky filling difficulties. It conditions without injuring the bobbins



The Sargent Drying Machines

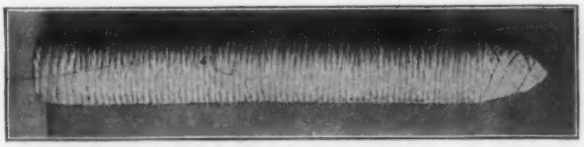
Metal Construction
Asbestos Insulation

Scientifically designed for greatest economy in drying Cotton, Wool, Hair.



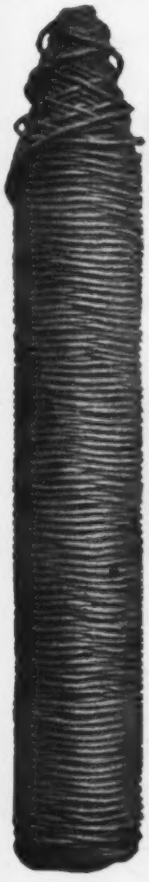
Wool Washers, Wool Dusters and Openers, Burr Pickers
Complete Carbonizing Plants
Automatic Feeds for Cotton and Wool

C. G. Sargent's Sons Corp., Graniteville, Mass.

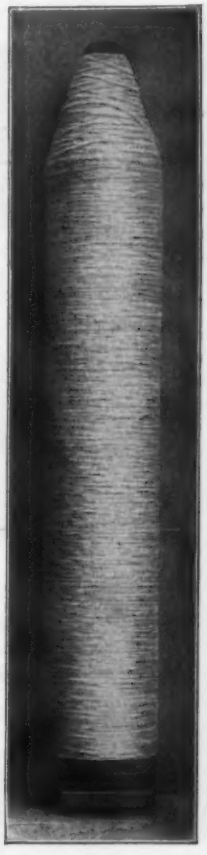


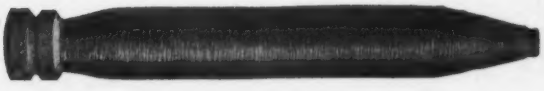
No. 2

No. 1 and No. 2—Cops to weave from inside seven-eighths to three inches diameter and up to seventeen inches long. Suitable for various kinds of coarse goods such as grass matting, cotton bagging, cocoa matting, all kinds of carpets, felts, chinchilla, linen, jute, flax, asbestos, hose and narrow fabrics such as wicks, belting, webbing, surcingles, halters, etc.



No. 3 and No. 4 Shuttle Bobbins from seven-eighths to two inches in diameter and any length up to twelve inches. Suitable for all kinds of duck, upholsteries, tapestries, asbestos, ratana or any kind of fancy yarns for automatic or other looms.





No. 1 No. 4 No. 3

OSWALD LEVER CO., Inc.

Lehigh Avenue and Front Street, Philadelphia, Pa.

Builders of Textile Machinery

WINDERS ESPECIALLY

The Hunter
NO. 10
FULLING
MILL
DRIVING SIDE
GEAR DRIVE
CLOTH WASHERS
PEICE DYE
KETTLES
SOAPING
MACHINES
BELT DRIVE
ROPE DRIVE
JAMES HUNTER MACHINE CO.
NORTH ADAMS, MASS., U. S. A.

SPECIAL MILL SUPPLIES
THAT HELP INCREASE PRODUCTION

New Hand Threading Shuttle

This new patented shuttle is the simplest, most effective, and quickly threaded shuttle made. It can be operated with the finest silk or the coarsest filling — will neither *unthread* nor "balloon"—it is arranged so that lint may easily be removed, and also that felt may be inserted for tension purposes. It complies with the Massachusetts sanitary shuttle law.

Never-Slip Cop Spindles and Tubes

We can guarantee that with this combination you can run your looms faster and with longer cops than with any other spindles or tubes. With this arrangement there is no waste of filling.

Paper Cop Tubes, Cones and Shells

We make a complete line of these, all of the very finest quality — samples sent free on request.

Shuttles and Shuttle Irons

MADE FOR ALL TEXTILE PURPOSES

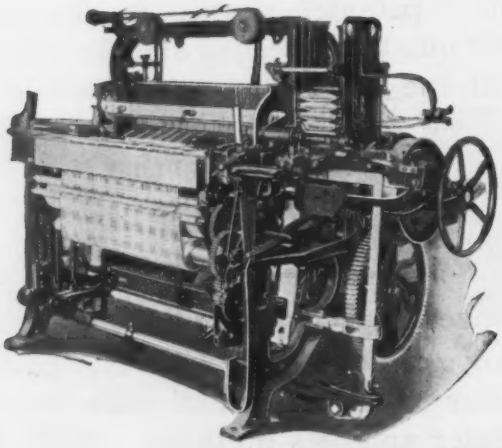
When in need of any of these products, all of which are fully patented and protected, give us a trial order — we can guarantee you complete satisfaction.

American Textile Specialty Machinery Co.

670 Eddy Street, - Providence, R. I.

Also 13th St. and Boulevard, Long Island City

Crompton & Knowles Loom Works



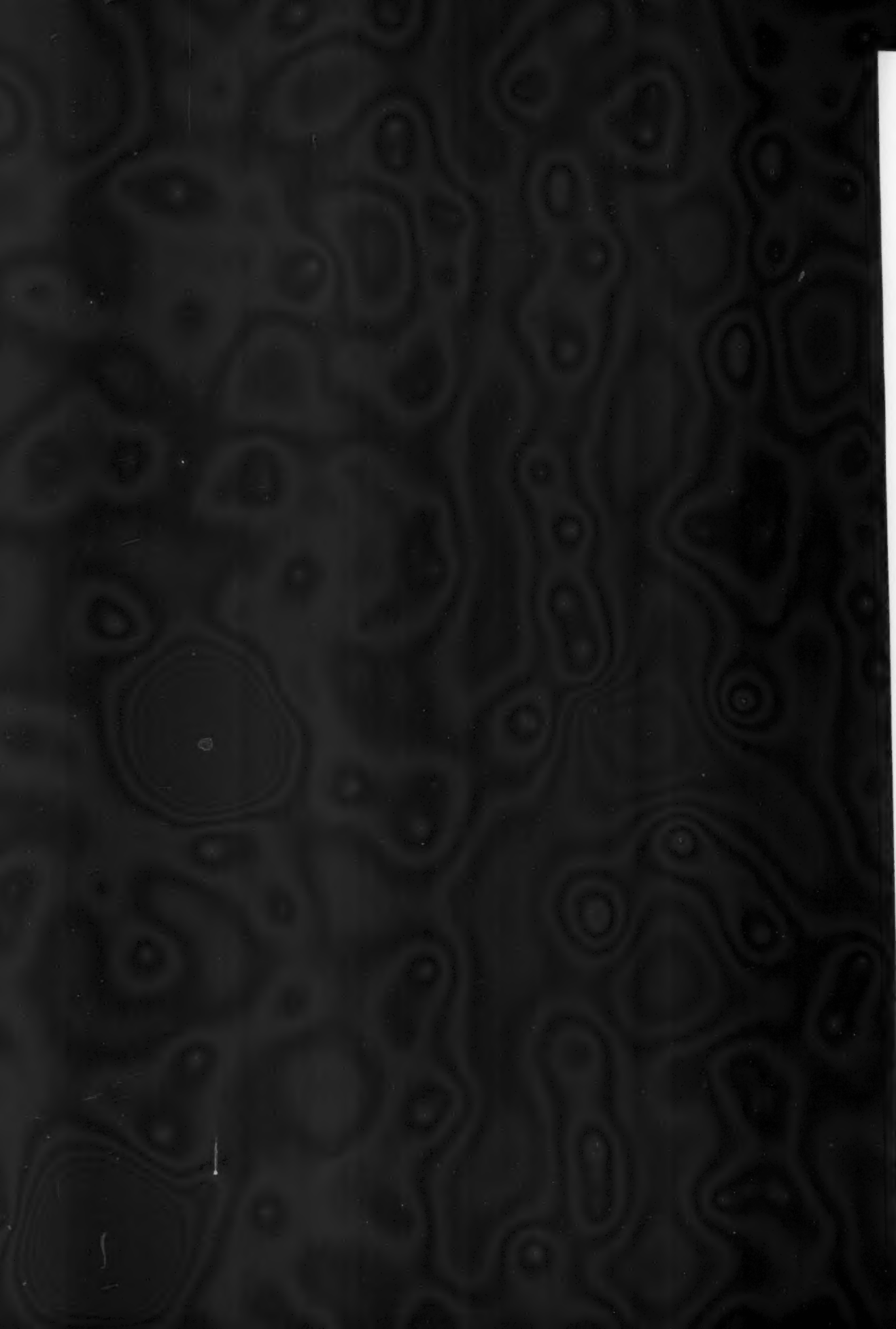
Automatic Gingham Looms

One of our latest productions for weaving goods of two or more colors in the filling. Like every loom we build, it has the advantage of a successful mill test.

WORCESTER, MASS.

Providence, R. I. **Philadelphia, Pa.**

Southern representative, ALEXANDER & GARSED, Charlotte, N. C.



ECONOMY AND SAFETY

YOU GET BOTH WITH

"Hurricane" Machinery

FOR

HOSIERY
SKEIN
YARN
SLUBBING
etc.

The best and mosteconomical Dyeing Machines

BETTER DYEING at LESS EXPENSE

Give us an opportunity to prove our claims

"Hurricane" Circulating Dyeing Machines are built in various sizes and types

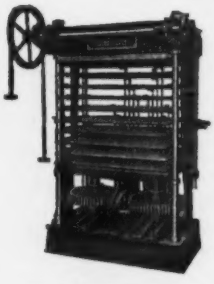
Automatic Dryer
For Yarn, Slubbing, etc.

Complete Equipments for

Dyeing
Scouring
Bleaching
Carbonizing

FIRE-PROOF DRYERS

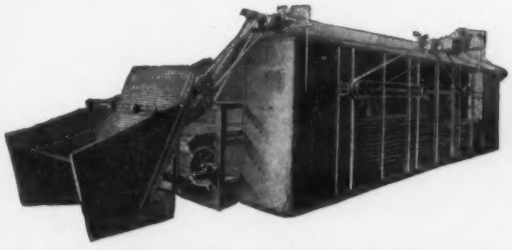
STEEL CONSTRUCTION
INSULATED WITH ASBESTOS



Power-Screw and Hydraulic
PRESSES

Fans

Motor and Belt Driven



AUTOMATIC STOCK DRYER
(With Sectional-Continuous Conveyor)
For Cotton, Wool, Hair, Rags, etc.

THE PHILADELPHIA DRYING MACHINERY CO.

Main Office and Works: 6721 Germantown Ave., Phila., Pa. **Boston Office: 53 State Street**

This Should Interest Every User of Textile Machinery

Lowell Textile School,
Lowell, Mass.
Charles H. Eames, Principal

Lowell, Mass., June 15, 1914

Hess Bright Mfg. Co.,
Front St. & Erie Ave.,
Philadelphia, Pa.

Gentlemen:

I beg to submit herewith after a long but unavoidable delay the summarized results of the tests made under my direction at the Lowell Textile School on a shoddy picker equipped with plain and Hess Bright ball bearings. The picker was built by C. S. Dodge of Lowell who assisted in changing bearings and putting machine in proper condition. The power records were obtained by an Esterline curve drawing wattmeter and the feed was made uniform by weighing constant weight per lineal feet.

The Feed apron—

	PLAIN		HESS BRIGHT		
Rate of feed	H. P.	%	H. P.	%	% saving
75 lbs. per hr.	6.01	100%	5.19	86.4	13.6%
100 lbs. " "	7.05	100%	5.68	81.2	18.8%

You of course understand that the plain bearings were in first class condition, as this picker is part of our regular equipment at the school.

Trusting you will be interested in these results, I remain,

Very truly yours,
(Signed) G. H. PERKINS,
Head of Engineering Dept.

Write for Catalogue

The Hess-Bright Manufacturing Company

Pioneers in the introduction of Annular Ball Bearings

Front Street and Erie Avenue, Philadelphia, Pa.

PHILADELPHIA. 666 No. Broad St. NEW YORK, 1974 Broadway CHICAGO, 1800 Michigan Ave.

THOMAS LEYLAND & CO.

MANUFACTURERS AND IMPORTERS OF

Textile Machinery

Works
Readville, Mass.

60 India Street, Boston, Mass.
F. T. WALSH, Manager

Manufactured by us at Our Own Shop at Readville, Mass.

Belt or Gear Driven.

With or Without Plaiting Down Attachment.

Improved Free Running Scutcher

For Woolen Mills, Worsted Mills, Bleacheries, Print Works, Piece Dye Works

---

MYCOCK'S PATENT

Regulating Cloth Expanders
Guides and Openers

Portable Sewing Machines
Whale Back Sewing Machines

Starch

THE particular case of your own mill needs careful study to determine what starch is best suited to *your* SIZING and FINISHING problems.

We have reduced the manufacture of starches for textile work to a science by years of factory investigation and laboratory research. We are ready to take up the special case of your mill and point out to you what starches are most adaptable and reliable for your purposes.

Six years of careful investigation of conditions in the cotton mills of the country has taught us the needs of the trade.

Six years' research in the best equipped Starch Laboratory in America has put us in touch with starch chemistry.

Six years of manufacturing, with cotton mill problems in mind, has produced our special Brands of Textile Starches.

We want to send our special starch expert to your mill. We want him to go into the matter of sizing with your boss of slashing—check up your sizing processes—find out whether you are now using the starches that will insure you the most efficient and economical results.

This special starch expert service is absolutely free—send us a sample of the starches you are using. We will give you an exact analysis of them and send our practical man to study your needs. Write a letter now to our Mill Starch Department.

Corn Products Refining Company
NEW YORK

Starch

LANE

Canvas Mill Trucks
Baskets and Boxes

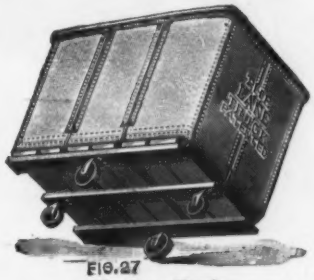


FIG. 27
The Lane Truck.
Mounted on Stationary Frame, Thread-guard Casters, as shown, or on Swivel Casters, if desired.

Altho' Withstanding the *Roughest Handling*

ARE THEMSELVES

Absolutely *Without Roughness.*

Thus They Reduce:

Cost, Waste, Damage

And They Are Light in Weight, Too

A STYLE FOR EVERY USE

W. T. LANE & BRO., Mfrs.

POUGHKEEPSIE, N. Y.

Westinghouse Electric CS Motors

WIN

Two thousand horsepower of Westinghouse Electric type CS motors were recently purchased by the Ludlow Manufacturing Associates after a careful service test of a trial motor.

The special features found superior in these motors were:

Strong forged steel construction
Practically indestructible rotor
Very large air gap
Dust-and-dirt proof bearings
Low operating temperatures obtained without ventilating ducts
Form wound primary coils laid in open slots
Unusually high efficiency

Send for full information

Westinghouse Electric & Mfg. Co.

EAST PITTSBURGH, PA.

BOSTON
Boston Safe Deposit and Trust Building

NEW YORK
165 Broadway

PHILADELPHIA
North American Building

CHARLOTTE
American Building

ATLANTA: Candler Building

The Unmerciful "G & K" Laboratory

Guarantees Spartan Leather Belting

Vitally important is the laboratory in the production of high grade Leather Belting. Only through the most careful analysis can defects in raw material be detected—which if not detected, would result in a weakened finished product.

Then, too, the ingredients of these materials must be of the highest quality and of right proportion or they cannot be used.

That is why in the "G & K" Laboratory it is Test, Test, Test, from the green hide to the finished belt. Every analysis, every test,

—to resist exposure to steam, oil, water and heat generated by excessive pulley friction,

—to grip the pulley perfectly, transmit a maximum of power and reduce the friction load,

—to wear longer and transmit power with greater economy than any other belting material used under similar conditions.

Unqualified Guarantees—and they are back of every foot of genuine Spartan Belting.

Look for the Trade Mark—it is your protection

The Graton & Knight Mfg. Co.

Oak Leather Tanners and Belt Makers **WORCESTER, MASS., U.S.A.**

BRANCHES

Selling Agents for Texas. The Graton & Knight Mfg. Co,, of Texas, Dallas, Texas

Atlanta	Detroit	Montreal, P. Q.	Minneapolis	Portland, Ore.
Boston	Fall River	New Orleans	New York	San Francisco
Chicago	Kansas City		Philadelphia	Seattle
Cleveland	Milwaukee		Pittsburg	St. Louis

SPARTAN

Cramer System
of
Air Conditioning

Cramer "High Duty" Air Conditioner

Cramer Automatic Regulator

FACTS

In several large mills equipped with humidifiers of other makes, we have entirely reorganized their system, installing our "High Duty" equipment with automatic humidity and temperature control and the average improvement during the succeeding twelve months test is:

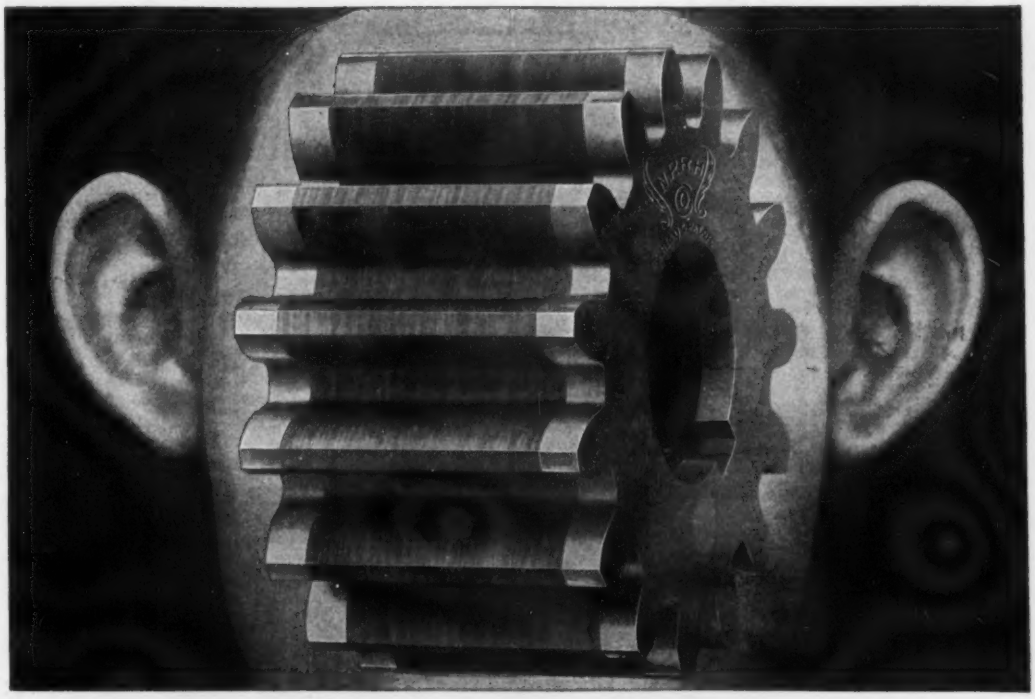
A—Seconds reduced over 50%.
B—Production uniform day after day (No big jumps.)
C—Actual waste account halved.
D—Large saving in "invisible waste."

What Would Similar Results Be Worth To You?

STUART W. CRAMER

50 Church St. New York — **Charlotte, N. C.** — Tremont Bldg. Boston, Mass.

QUIET GEARS MAKE USEFUL EARS



NEW PROCESS RAWHIDE PINIONS improve human efficiency just as surely as do good light, heat and ventilation. More are in use than of all other makes of noiseless pinions combined because they are quiet, strong, efficient, and they wear like iron. Ask for our booklet, "Noiseless Gear Driving"

NEW PROCESS IS TO ALL OTHER RAWHIDE AS STEEL IS TO IRON

N.P.R.H. REG. U.S. PAT. OFF.

NEW PROCESS GEAR CORPORATION

SYRACUSE, N.Y.

Canadian Agents Robert Gardner & Son, Ltd., Montreal

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Don't Worry About Dyestuffs

Bleach Your Stockings

WE ARE

Headquarters for Bleaching Equipment

Machines in All Sizes

Capacity from 50 to 500 lbs. per batch.

For detailed information address Dept. H. of

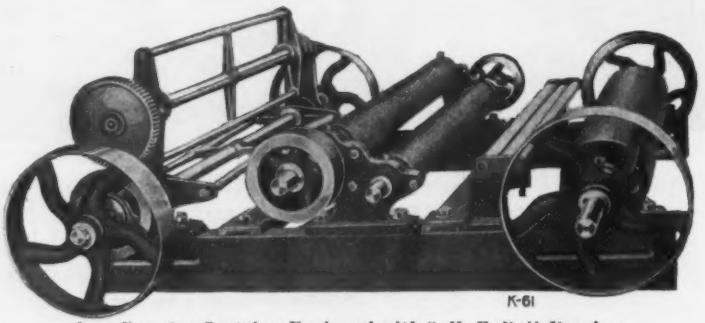
SMITH, DRUM & COMPANY

"Builders of the Best" Labor Saving Devices

Coral and Cumberland Streets - - Philadelphia, Pa.

Easy Running Scutchers

Be sure that those scutchers you use are easy running. This requires that the revolving parts be carefully balanced. The bearings must be adapted to high speeds.



K-61

Free Running Scutcher Equipped with S. K. F. Ball Bearings

S. K. F. Ball Bearings ensure steady running scutchers. The double row of Swedish steel balls and the self-aligning feature guarantees relief from scutcher troubles.

SAVE HORSEPOWER

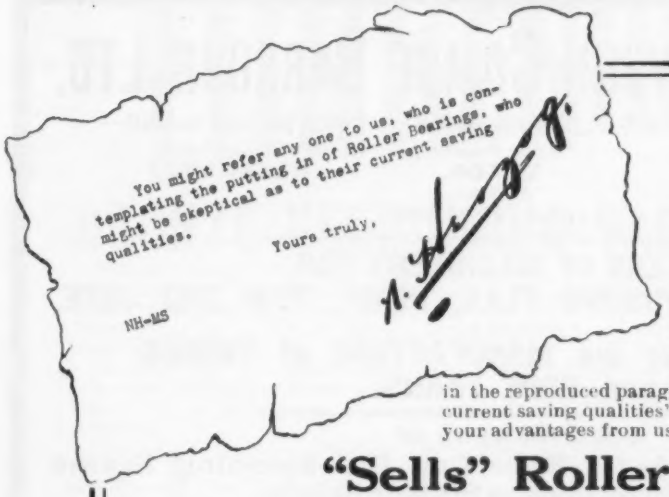
Specify

SKF Ball Bearings on Scutchers

Send for Bulletin No. 14-M

SKF BALL BEARING CO.

50 Church Street, New York


You might refer any one to us, who is contemplating the putting in of Roller Bearings, who might be skeptical as to their current saving qualities.
Yours truly,
NH-MS

"... their Current Saving Qualities"

Mr. Herzog, of the Herzog Factories, 500 So. Throop St., Chicago, makes significant comment in the reproduced paragraph of his recent letter. "...their current saving qualities" tells much of the story regarding your advantages from using

"Sells" Roller Bearings

Mr. Herzog's experience with his 500 bearings is but that of hundreds, as our files will show. It is the experience that has inevitably followed the installation of ***the*** roller bearing with the ***split*** sleeve, the ***split*** roller retainer, and the ***split*** box.

Please send for data. No obligation.

Royersford Foundry and Machine Co.

56 N. Fifth Street - Philadelphia, Pa.

Staunchness and Dependability

The Paramount Knitting Company of Waupun, Wisconsin, combed the market for a truck that would best meet its needs for prompt and reliable delivery to its trade. Its selection of the KisselKar Truck was determined after every well known make in America was investigated—as to material, design, workmanship and *record in service*.

KisselKar Truck owned by the Paramount Knitting Company of Waupun, Wisconsin

KISSELKAR TRUCKS

If, after careful analysis, we can satisfy *you* that KisselKar Trucks will save money in *your* business, we will feel that we have earned the right to solicit your order.

If, on the other hand, we cannot show you in figures that trucks will benefit you, we will advise you, not only not to buy, but just why you shouldn't.

KisselKar Trucks are built in six sizes—1500 lbs., 1, 1½, 2½, 3½ and 6 tons—bodies to suit. May we investigate your haulage system?

Let us refer your name to our nearest agent. At the same time we will mail you our truck portfolio with 350 illustrations—it's worth looking over.

KISSEL MOTOR CAR CO., 528 Kissel Ave., Hartford, Wis.

Boston, New York, Chicago, Milwaukee, St. Paul, Minneapolis, Dallas, Kansas City, San Francisco, Los Angeles, Cleveland, Detroit, Philadelphia, Pittsburgh, Rochester, Seattle, Baltimore, and 300 other principal points.

FAIRBAIRN LAWSON COMBE BARBOUR LTD.

FAIRBAIRN MACPHERSON BRANCH— Wellington Foundry LEEDS.
LAWSON BRANCH— Hope Foundry LEEDS.
COMBE BARBOUR BRANCH— Falls Foundry BELFAST.
AND AT LILLE, FRANCE.

MAKERS OF MACHINERY FOR PREPARING AND SPINNING FLAX, HEMP, TOW AND JUTE,
AND ALL
MACHINERY for the MANUFACTURE of TWINES and ROPE YARNS.

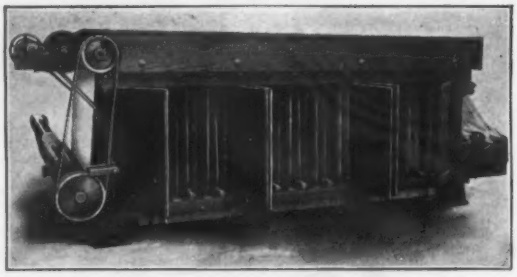
SOLE MAKERS OF
The Patent Centrifugal Flyer Cop Dry Spinning Frame
For Spinning Cops on the Bare Spindle.

ALSO MAKERS OF
ENGINEERS' GENERAL TOOLS for RAILWAY and ORDNANCE PURPOSES, &c., STEAM ENGINES, GROOVED ROPE PULLEYS, SHAFTING, &c.

COMPLETE PLANS AND ESTIMATES FOR SPINNING AND WEAVING MILLS SUPPLIED.

Manufacturers Cooling and Conditioning Machine

(PATENTED)



Does away with shadiness caused by uneven cooling. Quickly and permanently restores finished cloth *to its natural* condition.

INDISPENSABLE to every TEXTILE MANUFACTURER

Write for particulars

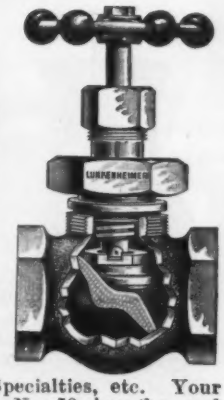
MANUFACTURERS MACHINE COMPANY

660 Essex Street, Lawrence, Mass.

Selling Agents: Edward Jefferson & Brother, 123 So. Second St., Philadelphia, Pa.

LUNKENHEIMER

BRONZE REGRINDING VALVES



This line consists of Globe, Angle and Cross Valves, with or without renewable seats and with inside screw,—the stem threads operating within the bonnet, or with outside screw and yoke; Horizontal, Angle, Vertical and Swing Check Valves; Screw Down Check, Blow-off, etc., made in all standard sizes and weights.

The large line of Lunkenheimer High Grade Engineering Specialties comprises, besides the above, a complete line of **Bronze** Gate and Lever Valves, all of which are likewise furnished with **Iron Body Bronze Mounted.**

The line also includes **"Puddled" Semi-steel** and **Cast Steel** Valves of all types; Water Columns, Gauges and other Boiler Mountings; Whistles and Ground Key Work of all descriptions; Injectors, Lubricators and Lubricating Devices; Oil Pumps, Oil and Grease Cups, Gas Engine Specialties, etc. Your local dealer can furnish them; if not, write us. Lunkenheimer Catalogue No. 50 describes and illustrates the complete line. Write for a copy.

THE LUNKENHEIMER CO.
"QUALITY"

Largest Manufacturers of High Grade Engineering Specialties in the World

New York Chicago **CINCINNATI, OHIO** Boston London 3-54c

A Visit to the Power Plants

of the largest and best known manufacturers in the country will show you that

Goulds Power Pumps

are the choice wherever engineers are employed to keep down maintenance and operating costs and to insure uninterrupted service. That's why such concerns as

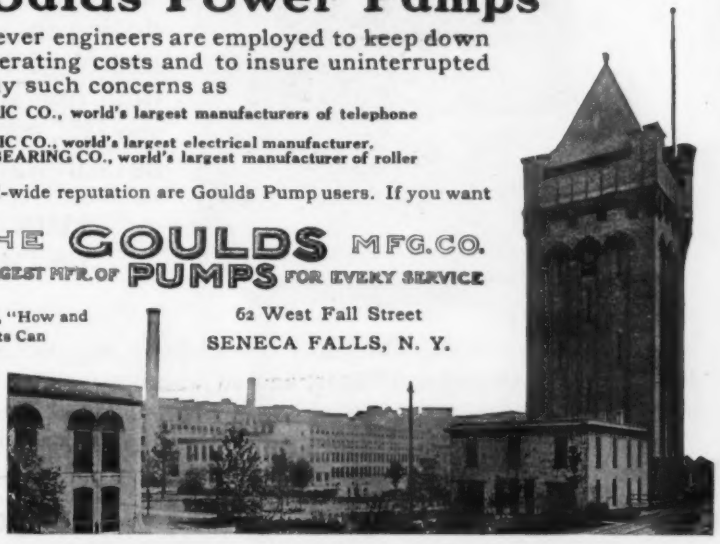
WESTERN ELECTRIC CO., world's largest manufacturers of telephone apparatus.
GENERAL ELECTRIC CO., world's largest electrical manufacturer.
TIMKEN ROLLER BEARING CO., world's largest manufacturer of roller bearings,

and many others of world-wide reputation are Goulds Pump users. If you want the same pump service these manufacturers get, all you need do is to specify "Goulds."

THE GOULDS MFG. CO.
LARGEST MFR. OF PUMPS FOR EVERY SERVICE

62 West Fall Street
SENECA FALLS, N. Y.

Ask for a copy of our book, "How and Where Pumping Costs Can Be Reduced."

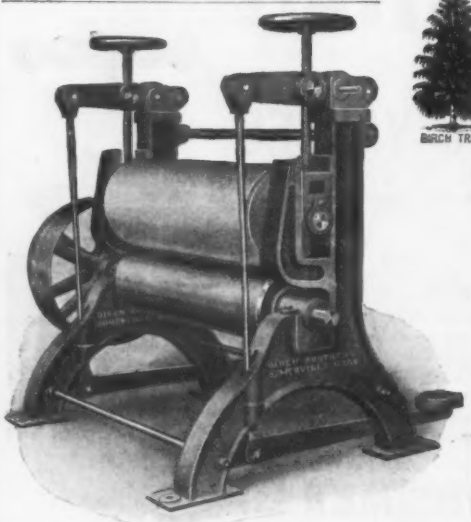


Partial view of the 156-acre Hawthorne, Ill., plant of the Western Electric Co., largest manufacturers of telephone apparatus in the world

BIRCH BROTHERS

ALBERT BIRCH TEXTILE MECHANICIAN

SOMERVILLE, MASS.



Starch Mangle.—This is the two-roll machine, with brass and rubber rolls. Mangles built with rollers of any material or number desired. Send for circular.

BIRCH TREE

"Coronation"

Piece-End

Sewing Machine

Sent on trial most anywhere

Sews any fabric, thick or thin, wet or dry, without change

Fine Stitch or Coarse Stitch

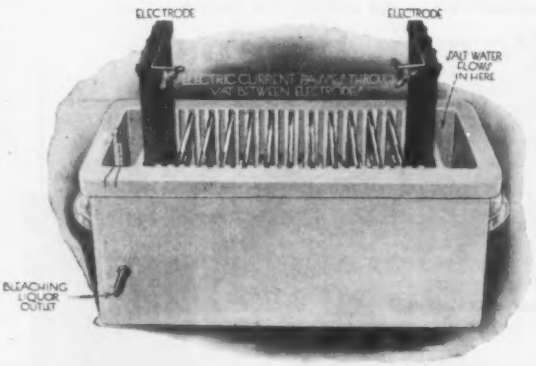
Send for Circular

Also Makers of

Dyeing and Finishing Machinery

Scutchers, Openers, Folders, Crabbing and Soaping Machinery

Make Your Bleach Out of Salt Water.



The cut represents our passage type Electrolyzer producing in 10 hrs. the equivalent of 50 lbs. of chloride of lime, operating under 110 or 220 DC, and nothing is used but salt-water and electricity.

THIS IS NOT AN UNTRIED THING

having many years ago passed the experimental stage. We have sold Electrolyzers to many of the large Knitting Mills, both hosiery and underwear, and so far are not aware of any purchaser not being thoroughly satisfied. There is absolutely no question about its merits.

Write, giving amount of lime used daily, current available, with costs.

We make machines of special construction for any purpose.

The National Laundry Machinery Co., Dayton, O., U. S. A.

Shall We Do It?

We Can—If We Will

IT has been said that with all Europe at war "America must now shoulder the world's work."

The terrible war now raging has drawn from the fields and factories of Europe the workers who have supplied not only their own countries, but the rest of the world, with some of the necessities and luxuries of life.

The condition has been heralded as an unprecedented and never-to-be-expected-again opportunity for this country and all sorts of predictions have been made as to the ultimate commercial gain for the United States.

In that case, the textile industry, the greatest in this country may have to increase its output, and consequently, be forced to increase its capacity and manufacturing equipment.

As a result those making textile machinery, factory equipment or supplies will benefit by an increased demand for their products and those who will derive the greatest benefit are the ones whose names and product are best known to the buyers in textile mills.

And if you make machinery, equipment or supplies usable in textile mills you can reach the men who have authority to buy your product through the medium that specializes on this end of the industry, the Textile World Record.

Of the Textile World Record's 400 regular advertisers over 100 sell machinery, mill equipment or supplies not advertised in any other textile periodical.

Textile World Record

144 Congress St., Boston, Mass.

Statement by a prominent Cotton Mill Executive:

"I Want My Payroll Compiled By My Own Men in My Own Way From the Time Shown By Some Modern Time Recording Instrument."

This statement shows the changed attitude of many textile executives toward the important question of time keeping.

We can show ***you*** why the yardage turned out by your looms does not prove the time the attendant arrived and left the mill. A careful analysis of time keeping has proven in many instances in courts, labor troubles and in all conditions under which labor is employed, the wisdom and the economy of having a reliable record of the arrival and departure of all classes and kinds of labor, no matter what the condition they are employed under so long as you pay for that time. History has proven the unreliability of records taken by a human time keeper. We have encountered many reasons why it is unreliable.

We have made a special study of time-keeping conditions in textile mills and solicit the opportunity of showing you how you can use International Time Recorders to your decided advantage.

The New International Dey Register—Fully Automatic

Registers "regular time in green; "irregular" time—(late arrivals and early departures) in red.

The weekly dial sheet is in the form of a payroll ledger sheet and serves every purpose of a regular payroll ledger. The help can be paid directly from the mechanically recorded time without re-writing into books. Wonderful saver of clerical time in making up payroll

The International Time Recording Company
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LONDON OFFICE: International Time Recording Co., Ltd. 30-32 Farrington Road, London, E. C., England
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BRETON OILS FOR WOOL

A grade for every need, scientifically compounded of the best materials in a way to meet the most difficult requirements.

Wool oiled with Breton Oil will stand several months without loss or danger of combustion.

Sold subject to trial and approval.

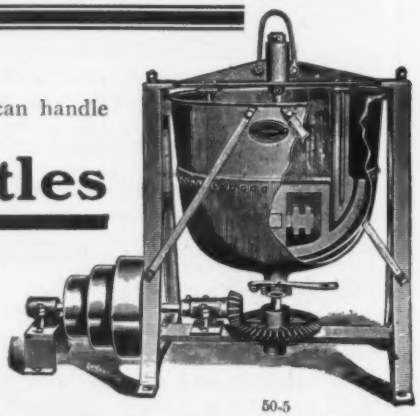
BORNE, SCRYMSER COMPANY, 80 South St., New York

Boston Fall River Philadelphia Works: Claremont, N. J.

Uniform Dyes

are possible only with proper dye kettles. You can handle your colors satisfactorily with

Badger Dye Kettles



because they are built right. If your dye kettles aren't just what you want, we are prepared to furnish kettles made according to our designs or we will build them according to yours. They will be well built too.

Let us send you our booklet on

BADGER COPPER KETTLES

Don't Forget Badger Copper Expansion Joints for your power plant

50-5

E. B. Badger & Sons Co., 73 Pitts Street, Boston, Mass.

RELIANCE CLOTH HANGING MACHINE

For shrinking woolen, worsted and cotton goods; drying **oilcloth,** or waterproof cloth, and curing rubberized cloth.

Can be attached to any machine or operated separately

In use by the United States Quartermaster **department** for shrinking uniform cloth.

Write for catalogue and prices

Reliance Machine Works

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American Moistening Company

120 FRANKLIN STREET, BOSTON, MASS.

Received the HIGHEST AWARD on recommendation of the FRANKLIN INSTITUTE for

"SIMPLICITY AND ORIGINALITY OF DESIGN"

Is the largest manufacturer of HUMIDIFIERS in the world. The last twenty years receiving the HIGHEST AWARD in this country and Europe for its AIR-MOISTENING SYSTEM. EIGHT GOLD MEDALS and others.

The Only Perfect System of Air Moistening

Has Been Adopted by the Representative Manufacturers of this Country.
The only System adopted in the Textile Schools. Write for booklet "T" on Humidification.
Legal proceedings will at once be taken against infringers and users of infringements.

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Latest and most approved methods of

POWER TRANSMISSION

by

BELTS, ROPES OR GEARS

Write for full information

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Salem, Mass.

Elevators Especially Adapted for Textile Mills

Protect Yourself Against Liability Laws

We make a specialty of attaching to Elevators, already in use, Automatic Folding Hatch Doors, Semi and Full Automatic Gates, Automatic Locking and Stopping Devices, Automatic Car Safety Attachments, etc.

Send for Illustrated Catalogue and Estimate

Tolhurst Self Balancing Extractors

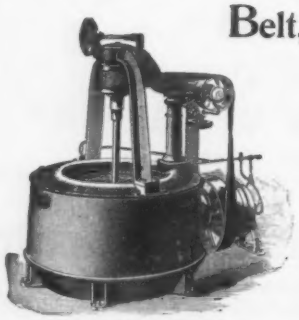
Belt, Engine and Motor Driven

Sizes 12" to 72"

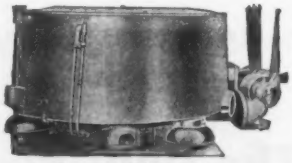
Dye Tubs and Tanks

Reel Dyeing and Bleaching Machines

Washing Machines



Over Driven Extractor



Open Top Extractor

TOLHURST MACHINE WORKS, Troy, N.Y.

FRED H. WHITE, Southern Representative, Realty Bldg., Charlotte, N. C.
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The "BODDEN" Flyer

For QUALITY OF FINISH
For QUANTITY of PRODUCTION
HAS STOOD THE TEST OF YEARS

Sole Agents for U. S. A.

Thomas Mayor & Son, Olney Street, Providence, R. I.

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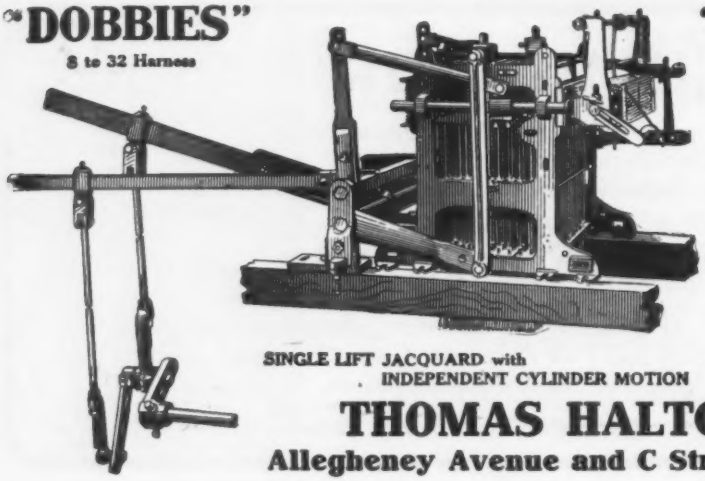
8 to 32 Harness



SINGLE LIFT JACQUARD with INDEPENDENT CYLINDER MOTION

"JACQUARDS"

208 to 2608 Hooks

ALL TYPES

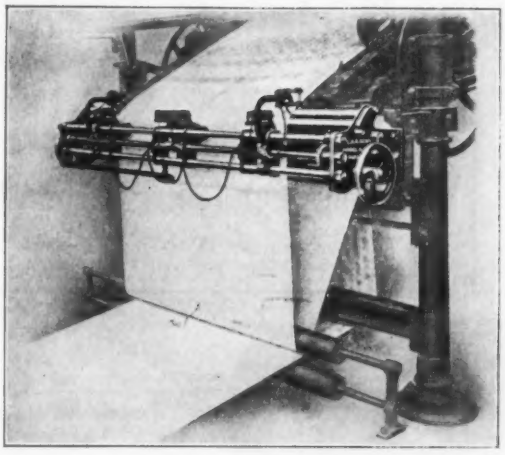
HARNESS BUILDING

THOMAS HALTON'S SONS

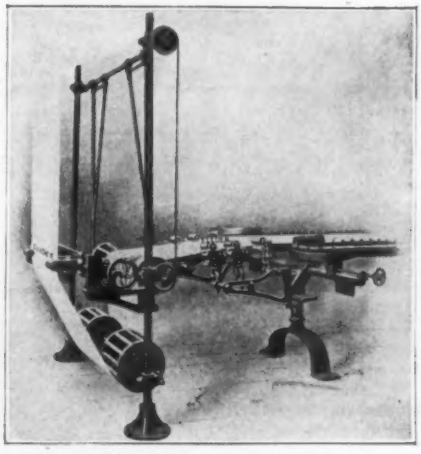
Allegheny Avenue and C Street, Philadelphia

Automatic Electric
CLOTH FEEDERS
FOR
Tentering Machines, Dryers Calenders, etc.
OVER **100% INVESTMENT**
IN SAVING OF LABOR

Prompt Deliveries Assured



MODEL A FEEDER



MODEL C FEEDER

L. H. A. SCHWARTZ & CO.
40 CENTRAL ST., BOSTON, MASS.

All kinds of Finishing Machinery for Cotton, Woolen and Worsted Yarns and Cloth

Dealers in China, India, Egyptian and American Cottons

The "Reeves" Way is the "Money-Making" Way

of controlling the speed of your machines.

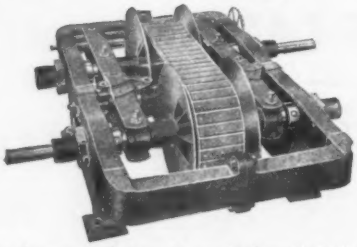
It gives exactly the speed you need for any fabric on any machine.

Wherever you have been using cone pulleys, gears, expanding pulleys, steam engines or other unsatisfactory methods of changing the speed you will find

"The Reeves" Variable Speed Transmission

will save materials, time, labor, trouble and power.

It will help you do more work and better work at less expense.



More than 500 of them in use in Textile Mills driving dryers, tentering machines, singers, mangles, washing machines, etc.

Catalog T-16 tells about it

Reeves Pulley Co., Columbus, Ind.

Chicago Branch, Corner Clinton and Monroe Sts.

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Lewis E. Tracy Co. . . . . Boston
Patterson, Gottfried & Hunter, New York City
W. E. Shipley Machinery Co., . . Philadelphia

In 1843

One man in a small shop

1857
First Advertisement

1864
Incorporation
and then add 50 years to

1914
All these years manufacturing

Power Transmission Machinery

That Satisfies and Wears Well

The American Tool & Machine Co.

BOSTON

The line includes: Paper Rolls, Husk Rolls, Cotton Rolls and Combination Cotton and Husk Rolls.

All are fitted with Perkins' Patented Spline, which prevents slipping or turning around the shaft.

Perkins Guaranteed Calender Rolls

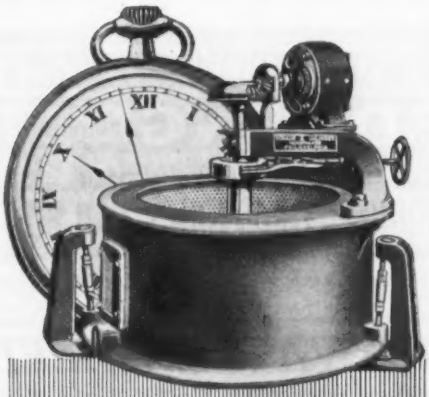
FOR FINISHING TEXTILE GOODS, BLEACHING AND DYEING CLOTH, ETC.

Perkins rolls are all filled by a patented special mechanical process, which insures perfect uniformity in density, a feature which is impossible with the ordinary hand-made rolls.

Rolls guaranteed to be strictly first-class in every particular.

WRITE FOR CATALOG 85-B

B. F. PERKINS & SON, INC. HOLYOKE, MASS.



A Quick Start and a Short Stop

Hold the watch on Schaum & Uhlinger extractors, and one reason for their success will quickly demonstrate itself—they save time.

The quicker an extractor can be made to start and stop, the more useful work it can put into each working day.

Schaum & Uhlinger Centrifugals

are mechanically constructed to gain headway with utmost rapidity; and when extraction is completed, a powerful toggle brake brings them to a quick stop. No time is lost. Your work is accomplished with all possible speed.

Just a proof of our assertion: over 1350 firms now use S. & U. Extractors, some using as many as 40 machines. Here are other reasons for their choice of S. & U. Extractors:

Being self-balancing, they automatically take care of all vibration.

They require a minimum of floor space.

Each is fully guaranteed.

Our full line is described and illustrated in our catalogue on Centrifugal Extraction. It also contains a list of the users in your territory and valuable data that you should ask for today.

Schaum & Uhlinger, Inc.
Glenwood Ave. and Second St.
PHILADELPHIA

Make Your Truckmen 500% More Efficient

You can avoid confusion, waste of valuable floor space, loss of time due to machine operators waiting for supplies and loss of material because of continual rehandling if you adopt the

National-Chapman Elevating Truck

in your mill. One operator with one Elevating Truck, and a sufficient quantity of inexpensive skids on which to store loads will care for the trucking previously allotted to five men.

Built in nine regular models. The new 1915 model makes it possible to turn in narrow aisles, between machines, etc. In addition a handle release attachment makes the operation of the truck more simple. Lowering the load is accomplished by check compression, without shock or jar, or danger to the operator from flying handle.

Catalog "W" and our interesting folder "Trucking Most Efficiently" sent on request. Send us your address for copies To-Day.

NATIONAL SCALE COMPANY
18 Record Street, Chicopee Falls, Mass.

THE DOUBLE, BURNISHED OR DIAMOND FINISHED

RIBBED RING WHITINSVILLE

MADE BY THE WHITINSVILLE SPINNING RING CO. MASS.

THE BEST THAT EXPERIENCE CAN PRODUCE, THAT MONEY CAN BUY

THE SAMSON TURBINE WATER WHEEL

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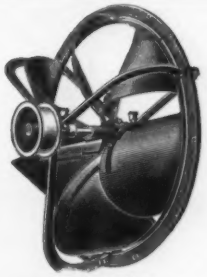

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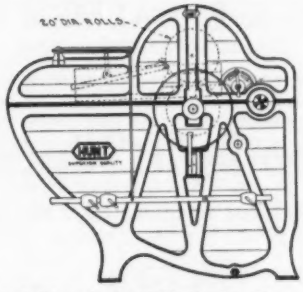

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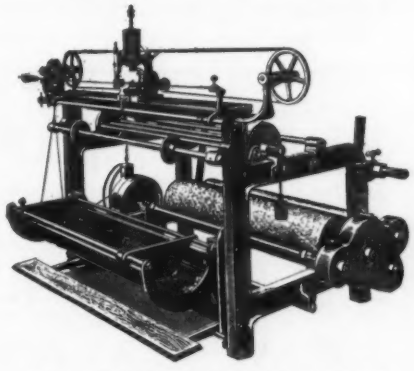

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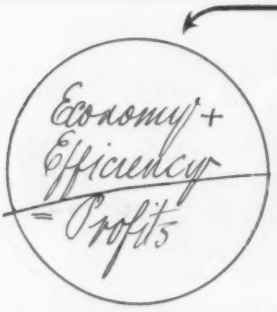

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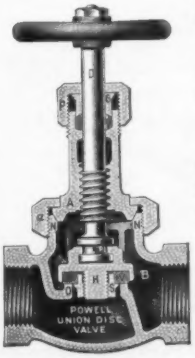

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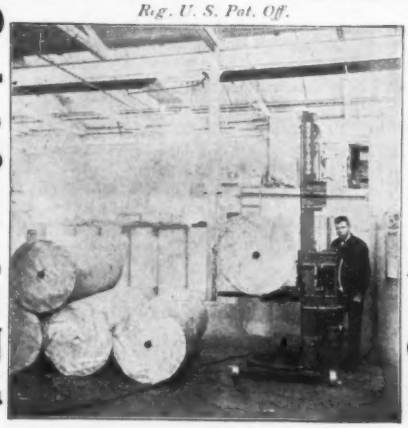

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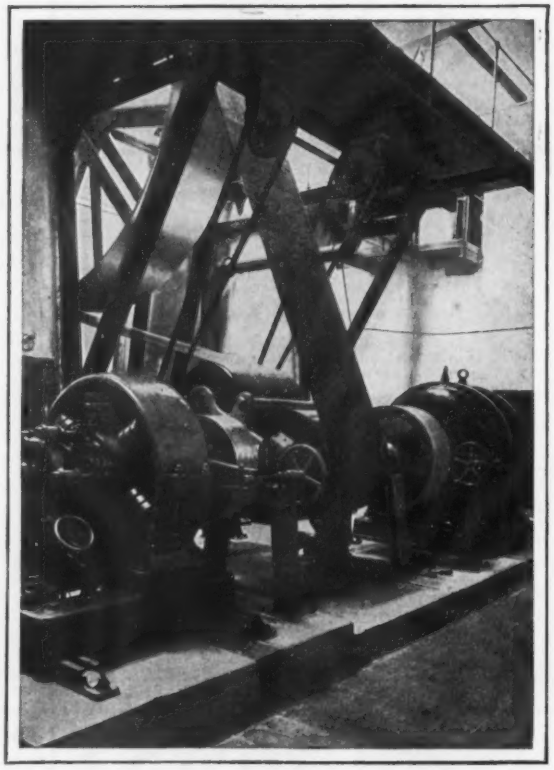

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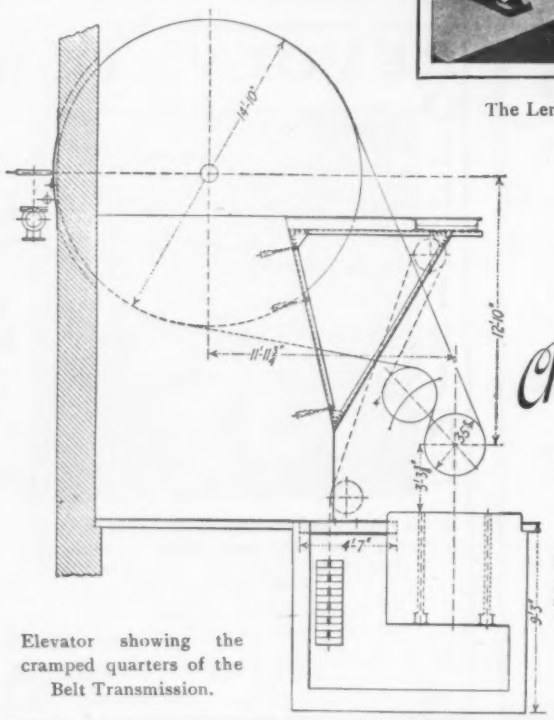

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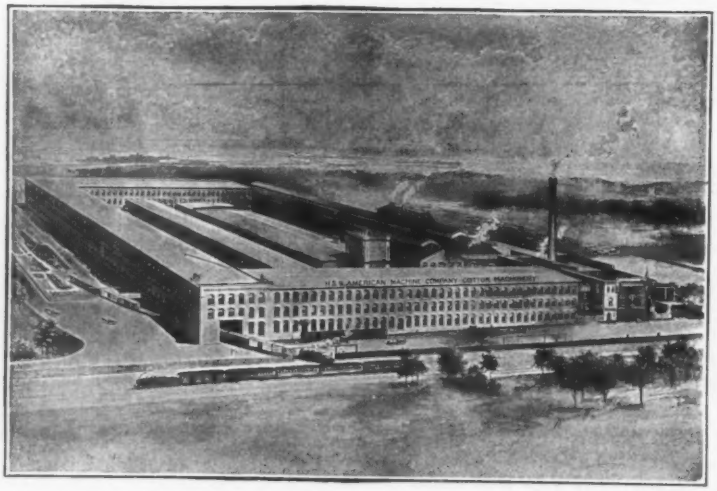
Contents for December

	PAGE
Monthly Comment	45
The British Embargo and the American Wool Supply	51
Relief of War Sufferers	55
The Wool Goods Market	55
The American Association of Woolen and Worsted Manufacturers	57
The Southern Textile Association	58
The National Association of Wool Growers	59
Secretary Redfield and the Textile Industry	63
The State Support for Dyestuffs	64
Wool Goods in China	64
The Textile World Record's Report of New Mill Construction for 1914. op.	64
The Pennsylvania Knit Goods Manufacturers Association	79
The Home Market Club	79
CORRESPONDENCE AND NOTES	81
Degreasing Wool—German Shoddy in War Time—English Notes—After the War—A Silk Warp Khaki—Manufacturing Spiral Yarn—Wool Growing in the United States—An Improved Lace Fabric—Philadelphia Wool and Textile Association—A Hand Book of Weaves—An Improved Elastic Fabric.	
QUESTIONS AND ANSWERS	99
DYEING, BLEACHING, FINISHING, ETC.	106
Blacks on Medium Weight Wool Goods—The Giles Yarn Dyeing Machine—The Dyestuff Problem in England—Natural Dyes as Substitutes for Coal Tar Colors—Dye Recipes.	
KNITTING DEPARTMENT	116
The Knit Goods Situation—The "Paramount" Metal Forms for Hosiery—An Improved Stocking—Fancy Knitting—The Tuttle Knitting Machine.	
NEW MACHINERY AND PROCESSES	123
PERSONALS	136
NEW PUBLICATIONS	137
BUSINESS LITERATURE	137
INDUSTRIAL NOTES	137
RECENT TEXTILE PATENTS	144
TRADE-MARKS RECENTLY FILED FOR REGISTRATION	144
PUBLISHERS PAGE	160
MILL NEWS	171
WOOL MARKET	179
BRADFORD MARKET	181
COTTON MARKET	183
YARN MARKETS	185
RAG AND SHODDY MARKET	195
SILK MARKET	197
MILL STOCKS	205

Correspondence

We solicit correspondence on textile subjects. Articles accepted will be paid for. Name and address must always be given, not necessarily for publication. Subscribers are invited to make free use of our Questions and Answers Department; correspondence is strictly confidential.

COTTON MACHINERY



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TEXTILE WORLD RECORD

DECEMBER, 1914

Monthly Comment.

Made in the United States

The disclosure, made by the European war, of our dependence on foreign countries for not only luxuries, but necessities, has resulted in a general awakening of the protectionist sentiment of the American people. This sentiment is expressed in different ways, by advocating a higher tariff or by urging that purchasers insist on having goods made in the United States. The underlying motive is the same in both cases, to make the United States so far as possible self-supporting and independent of foreign sources of supply. This movement in favor of the use of goods made in the home country is not confined to producers, who would profit by it, but has attained considerable headway among the consumers, who have a selfish interest in getting the most and the best for the least money, regardless of where the goods are made.

This growth of sentiment in favor of domestic products deserves every encouragement as a means of keeping fresh in the minds of the people of this country their mutual interdependence. The development of industry and trade and the increase in the number of our wants have made us dependent on each other in innumerable ways of which we remain in ignorance until some dislocation of the industrial or commercial machinery deprives us of accustomed services or goods and reveals how helpless the individual is when thrown on his own resources. The European war is not only showing us how dependent we have been on foreign sources of supply. It is doing more than that. It is showing that we are needlessly dependent on foreign countries for many kinds of goods, and that by using foreign products, we have neglected to develop our own resources and provide our own people with the means of living in greater comfort and security.

This sentiment in favor of home products cannot, however, be kept alive without substantial aid. Widespread as it now appears to be, the vast majority of the people are as yet untouched by it; others are but slightly affected; those who have reached the stage of full and complete conviction form but an insignificant minority. Even the last-named will find it difficult to practice their creed now, and impossible to continue that practice indefinitely, unless they are aided by the government. Life has become altogether too complicated for the individual to devote the time and labor necessary to determine that the products he or she consumes are made in the United States. Sooner or later, probably sooner rather than later, the most enthusiastic advocate of the use of home products will fall back into the old habit of taking what is offered so long as it supplies the individual's requirements, unless the problem of determining the country of origin is made easy for him.

The first aid that should be given is obviously to require that goods offered for sale to consumers shall not be falsely marked to indicate the country of origin. For years domestic goods, particularly textiles, have been sold as 'imported" because of the prevailing prejudice in favor of foreign materials. And it is certain that if tailors and retailers discover that the buyers have reversed this prejudice, they will be as ready to mark "American" on foreign goods in order to make sales easier and profits larger. Accordingly the first step in making this movement something more than a futile noise is to enact a Merchandise Marks Act, patterned after the British law, and which among other provisions will contain something like this:

> Every person who applies any false trade description to goods, shall, subject to the provisions of this Act, and unless he proves that he acted without intent to defraud, be guilty of an offence against this Act.
>
> Every person guilty of an offence against this Act shall be liable on conviction on indictment to imprisonment, with or without hard labor, for a term not exceeding two years, or to fine, or to both imprisonment and fine.
>
> The expression "trade description" means any description, statement, or other indication, direct or indirect; (b) as to the place or country in which any goods were made or produced.

With such a law strictly enforced in both interstate and intrastate commerce and extended to oral as well as written descriptions of goods, the purchaser who wanted American goods would find his search made easy by the fact that what was on a label, or what was said by the seller, was the truth and not a lying device to sell goods.

Even with the ultimate consumer determined to boycott imported goods and aided by an effective Merchandise Marks Act, a serious difficulty in making sure that goods offered for sale were produced in the United States would arise in connection with the importation of foreign raw materials, partly manufactured products and manufacturing appliances. Production is often a complex series of processes during which the partly manufactured product of one producer is the raw material for another. It would be a sorry outcome of all this patriotic effort for the encouragement of home industry if a wool fabric bearing the mark "Made in the United States" had been made of wool grown in Australia, combed, drawn and spun in Europe, imported in the form of yarn, and colored with dyestuffs made abroad, with the weaving, dyeing and finishing the only operations carried on in this country. Such a fabric would be three-quarters foreign and one-quarter American. The "Made in the United States" label on such goods would be a sham, in reality a cover for foreign products. To avoid this rock something more than enthusiasm for domestic goods and a system of honest labeling and selling is necessary. That something is a fair and adequately protective tariff on raw materials, partly manufactured products and finished goods; in the case of wool goods, a tariff on wool, tops, yarn and cloth.

Among the reasons that make protection necessary is the unreasoning prejudice, common to all countries, in favor of goods bearing the label "imported." The chief reason, however, is the lower money cost of production in most foreign countries, a condition complicated by "dumping" and unfair competition. Added to this is the fact that many, in fact most industries and occupations are protected by natural conditions, while others whose products are easily transportable are exposed to practically the full force of competition of foreign industries. In a country like the United States where market values of services and goods are higher than those abroad, a carefully adjusted protective tariff on transportable articles is necessary in order to place the different industries, trades and occupations on an equality as regards competition with the lower money values prevailing in foreign countries.

In the course of time, measured in days, weeks, months or years, according to the temperament and environment of the individual, the sentiment in favor of using goods from any particular place will fade and disappear. That is human nature and must be reckoned with. With the return of peace and the restoration of normal trade conditions throughout the world, the American people will return to the indifference to the country of origin, which characterized them before the outbreak of the Great War

on July 31, 1914, when prejudice in favor of imported products and cheapness resulting from lower wages and the concentration of long-established industries and from unfair competition abroad, were the preponderating influences promoting the sale of easily transportable foreign goods in the United States. These conditions make it necessary to protect home industries by a tariff to the end that American conditions of living may be maintained in the production of easily transportable products as well as in the production of those that can be transported from foreign countries with difficulty or not at all.

—+—

Both the Goods and the Money

For twenty years the following phrase, with unimportant variations, has been widely circulated as having been original with Abraham Lincoln:

When we buy goods abroad we get the goods, and the foreigner gets the money; when we buy the goods made at home we get both the goods and the money.

In June, 1913, the "Manchester Guardian" finding that the statement was being circulated by the tariff reformers (protectionists) of Great Britain, attempted to meet it with an amusing example of sophistry, which evidently was not satisfactory even to the editor of the Guardian, who allowed this admission to escape:

Indeed there is something that we find rather taking in its apparently artless simplicity.

Our comment in July, 1913, on the Guardian's effort was read by Prof. Taussig, of Harvard University, who in the August, 1914, issue of the "Quarterly Journal of Economics" gave an extended report of an effort made by himself and D. M. Matteson to trace the phrase to its origin. Prof. Taussig summed up his conclusion in these words:

It seems certain that the phrase is apocryphal. There is no evidence that Lincoln ever used it. Further search may show how it originated.

Prof. Taussig was evidently not quite satisfied with this purely negative result of his inquiry, but sought to cover the disputed quotation with obloquy by ending his report with this:

So crude is the reasoning (if such it can be called), so vulgarly fallacious is the antithesis, that we must hope that it will cease to be invested with the sanction of a venerated name.

and with this intemperate passage by Horace White, from the New York Evening Post of April 10, 1914, in which Prof. Taussig saw nothing vulgar:

My reason for thinking that Lincoln never said this is that he was not a fool.

When Prof. Taussig's inquiry came to our notice, we concluded to make an investigation of our own, and wrote to Robert T. Lincoln, asking if he could throw any light on the question as to whether the phrase had been used by his father. In his reply Mr. Lincoln said:

In regard to the attribution to President Lincoln of the tariff illustration about our getting the goods and sending the money abroad, in one case and in the other, our having the goods and keeping the money also, which has been made to appear in slightly differing forms, and the authenticity of which has been alleged to have my support, I have not ever given my authority for the statement; I can find no basis whatever for thinking that Mr. Lincoln ever used such an illustration and I do not believe that he ever did so.

Its origin is perhaps, and I think very possibly, to be found in a well-known published address upon Abraham Lincoln by Robert G. Ingersoll. It is not given by Mr. Ingersoll as a quotation, and it could not be, for steel rails were first made in America in 1865, after the death of Mr. Lincoln, and their cost was not far from two hundred dollars per ton. Mr. Ingersoll was clearly speaking at and of a much later time, and it is my guess that some professional writer thought that the idea was catching and could be used with greater authority by attributing it to Mr. Lincoln, and was clever enough to avoid an anachronism by changing the subject from steel to some older article of manufacture.

It is, of course, open to someone to produce, if possible, a version of the idea, of which the publication was at a date before steel rails sold in this country for less than twenty-five dollars per ton.

The lecture on Abraham Lincoln was copyrighted by Col. Ingersoll in 1894. The passage which Mr. Robert T. Lincoln believes to be the source of the tariff phrase in question is as follows, permission to reprint it here having been given by J. F. Taylor & Co., New York, the publishers of Ingersoll's works:

Lincoln quit the farm—went down the Ohio and Mississippi as a hand on a flat boat—afterwards clerked in a country store—then in partnership with another bought the store—failed. Nothing left but

a few debts—learned the art of surveying—made about half a living and paid something on the debts—read law—admitted to the bar—tried a few small cases—nominated for the Legislature and made a speech. This speech was in favor of a tariff, not only for revenue but to encourage American manufacturers and to protect American workingmen. Lincoln knew then as well as we do now, that everything, to the limits of the possible, that Americans use should be produced by the energy, skill and ingenuity of Americans. He knew that the more industries we had, the greater variety of things we made, the greater would be the development of the American brain. And he knew that great men and great women are the best things that a nation can produce,—the finest crop a country can possibly raise. He knew that a nation that sells raw material will grow ignorant and poor, while the people who manufacture will grow intelligent and rich. To dig, to chop, to plow, requires more muscle than mind, more strength than thought.

To invent, to manufacture, to take advantage of the forces of nature—this requires thought, talent, genius. This develops the brain and gives wings to the imagination.

It is better for Americans to purchase from Americans even if the things purchased cost more.

If we purchase a ton of steel rails from England for twenty dollars, then we have the rails and England the money. But if we buy a ton of steel rails from an American, then America has both the rails and the money.

Despite the laborious efforts of Prof. Taussig and his assistant to trace the phrase to its source, they failed to discover that passage from Col. Ingersoll's lecture. We give it here, as it apparently settles the question as to who originated this now famous statement of the policy of protection to home industry.

The fact that Ingersoll, not Lincoln, is the author of the phrase does not affect its soundness. Nor is it possible to refute the reasoning by calling it "vulgar", as Prof. Taussig does, or by Mr. White's intemperate statement that no one but a fool would use it. The free traders will have to resort to something besides calling names in order to refute the proposition so cogently stated by Col. Ingersoll.

CORRECTION

In the article on Belgian and German shoe cloths in our November issue the number of ends of warp in sample No. 1 should be 174 instead of 117. The size of the warp in sample No. 11 should be 2/54s worsted instead of 2/34s.

Arno Smith Pearse

The warring nations of Europe are taking no time to discriminate in their antagonism to the enemy. Everything British, Russian, French, Servian, Belgian or Japanese is under suspicion in Germany and Austria. In like manner things German or Austrian are taboo among their enemies. A name, an accent or a birthplace, may be enough to deprive a person of the confidence of the community and make it impossible for him to occupy any position of trust or in fact to earn a living in the country. This feeling is natural and in the stress of war it is impossible to take time to discriminate. It is directed to all classes regardless of their previous reputation. Prince Louis of Battenberg, the First Sea Lord of the British navy, was forced to resign that position because he was born at Gratz, Austria, of Austrian parentage. Here is his letter of resignation:

Dear Mr. Churchill: I have lately been driven to the painful conclusion that at this juncture my birth and parentage have the effect of impairing in some respects my usefulness on the Board of Admiralty.

In these circumstances I feel it to be my duty as a loyal subject of his Majesty to resign the office of First Lord, hoping thereby to facilitate the task of the administration of the great service to which I have devoted my life and to ease the burden laid on his Majesty's Ministers.

I am, etc., Louis Battenberg, Admiral.

Another case is that of the secretary of the International Cotton Federation, who on account of this war sentiment has had his name changed to Arno S. Pearse, the following notice of the change having appeared in the London Gazette:

I, the undersigned, Arno Smith Pearse, heretofore called and known by the name of Karl Max Arno Schmidt, of Holmlea, Lymm, in the County of Chester, Secretary of the International Federation of Master Cotton Spinners' and Manufacturers' Associations, Manchester, a naturalized British subject, hereby give public notice that, on the 25th day of September, 1914, I formally and absolutely renounced, relinquished, and abandoned the use of my said surname of Schmidt, and then assumed and adopted and determined thenceforth on all occasions whatsoever to use and subscribe the name of Arno Smith Pearse instead of the said name of Karl Max Arno Schmidt; and I give further notice, that by a deed poll dated the 25th day of September, 1914, duly executed and attested and enrolled in the Central Office of the Supreme Court, on the first day of October, 1914, I formally and absolutely renounced and abandoned the said

surname of Schmidt, and declared that I had assumed and adopted and intended thenceforth upon all occasions whatsoever, to use and subscribe the name of Arno Smith Pearse instead of Karl Max Arno Schmidt, and so as to be at all times thereafter called, known, and described by the name of Arno Smith Pearse exclusively.—Dated the 16th day of October, 1914. Arno Smith Pearse.

The German Tariff and Import Trade

In a recent issue the "Leipziger Monatschrift fuer Textil-Industrie" gave the following interesting summary of German imports and the duties collected in 1913:

Not less than 56 per cent. of German imports from foreign countries are free from customs duties. With total imports of $2,584,800,000 in 1913, the value of the goods subject to duty was $1,129,920,000, or 44 per cent. of the total value. The duties collected on these goods amounted to $212,400,000. This is 8 per cent. of the total value of all imports and 19 per cent. of the value of the goods subject to duties. The following table shows the proportion of dutiable goods in each class:

Raw materials	dutiable	10%
Partly manufactured goods		46
Finished goods		63
Foodstuffs		88
Live animals, principally cattle and horses		86

The ad valorem equivalents of the duties collected on certain classes of goods are as follows:

Foodstuffs	imports	$133,032,000	20%
Finished goods		56,480,000	10
Raw materials		33,168,000	3
Partly manufactured goods		7,296,000	2
Live animals		5,016,000	7

Foodstuffs show the highest duty and in this group corn stands at the head of the list. The following table gives the total imports and ad valorem equivalents of the duties collected:

Corn	$65,016,000	26%
Tobacco	31,464,000	90
Coffee	23,784,000	46
Wine	6,456,000	46
Meat and lard	6,216,000	13
Cotton goods	1,848,000	18
Iron and steel products	1,824,000	12
Wool goods	1,344,000	14
Machinery	1,272,000	6
Leather and leather goods		3
Wool Yarn		1

The duty collected on corn amounts to about 4 marks (96 cents) per capita; that on coffee 1 1/2 marks (36 cents); that on mineral oil 1.2 marks (29 cents).

The rates on partly and wholly manufactured goods appear low in view of the general opinion that Germany has a high protective tariff. The comparatively high rates on foodstuffs have been brought about by the activity of the agrarian party, which has battled for years to obtain for the farmer the protection that manufacturers have claimed for their products.

South American Trade

So much claptrap has been written and printed about the vast possibilities of our export trade to South America that the following extract from a circular letter issued by the Foreign Exchange Department of the First National Bank of Boston may be of interest. This is one of the leading financial institutions in New England and one of the largest in this country and through its foreign department it has established a system of "dollar credits" in place of or interchangeable with the "sterling credits" on London, so that merchants desiring to do business directly with South America may do so in this way which is authorized under the new federal reserve act. Naturally this bank is desirous of building up a large South American business, but it is frank enough to state the situation in those countries clearly so that merchants may not be misled into embarking upon an expensive campaign unadvised.

South America is a continent of great potential wealth, which has scarcely begun to be developed, and there are unusual trade opportunities for the future. It presents a vast range of thinly populated and undeveloped land, and due to the nature of the country the greater part of its supplies and manufactured articles must be imported.

The United States has been busy with its own and foreign markets, and has shown only slight interest up to the present time in the South American market. Of the total exports from the United States in 1870, 4.6 per cent. went to South America, and in 1913 this had been increased to only 6 per cent.

The greatest handicaps in the past have been the lack of banking facilities, steamship facilities, and a faulty knowledge of the general conditions prevailing throughout South America. United States trade with South America is a much to be desired eventuality, but one which involves adaptation to local conditions and customs, with which it will be difficult for American business interests to conform. As an American, long resident in South America, writes:

"The American merchant who contemplates trade with South America must abandon all his preconceived ideas of how to sell goods abroad and start from the bottom. If this seems an

easy task let him only await the feeling of utter helplessness which will sweep over him after a short time when he realizes that there is a gulf, not only of mere language, but of fundamental conception of things, which separate South American governments from English."

The exporter from the United States will find strenuous competition from Germany and England, whose merchants are firmly established and know the customs and law of the South Americans, cater to their desires, and are prepared to sell their goods on long credit. Germany and England have a tremendous advantage in the direction of bank facilities and steamship connections, in addition to a trained staff of salesmen who have lived in the country for years. The United States merchant at present is handicapped by the existence of a powerful steamship combination, is ignorant of the Roman law,—by which the countries are governed,—the customs and the nature of the people, and as a rule is not prepared to give long term credits. All these things can be acquired only after years of the most patient, diligent and persistent study and effort. Firms which wish to build up a foreign business of their own will find it best to establish direct connections in the markets they wish to enter, or send their own representatives to the field, to stay there permanently. This latter plan involves large expense but produces the best results.

Brazil and Argentina are agricultural and stock raising countries, and their purchasing power fluctuates with the prosperity of the crops, which naturally results in an unstable market. Business is so much a matter of friendship between buyer and seller that only the most intelligent and gentlemanly type of salesman should be sent to South America. The terms of a sale are rarely less than 90 days' sight and often longer. The American idea of cash upon shipment from the United States, or cash upon arrival of the goods, is practically out of the question. These long credits involve a great risk and require the watchful eye of an expert who knows the country, the laws, and the people—their methods and their traditions.

United States manufacturers should not be carried away by fabulous tales about South America. As a leading exporter has been quoted—"Some business exists there, but it is not of enormous volume nor especially safe in credit. It is entirely safe to assert that Europe's domination of South American trade has been at the expense of credits. It has been part and parcel of financing South American countries. Unless American investors are prepared to buy millions of Brazilian, Argentine, Chilian, Bolivian and Peruvian bonds, there will be no great open door of trade in the South American continent."

The above is written, not to belittle the considerable volume of South American business which can be secured at the present time, and certainly not to minimize the tremendous trade which is destined to develop in the more distant future, but to put in the minds of exporters the need of intelligent and careful preparation before actually entering the South American trade.

Dyestuffs and Patents

Soon after the war broke out in Europe, the Providence Chamber of Commerce became interested in the threatened famine in dyestuffs. After making a careful investigation of the problem, the Chamber authorized the following letter to be sent to Representative Peter G. Gerry, of the second Rhode Island district:

Sir: On behalf of The Providence Chamber of Commerce and by authority of the Executive Committee we would ask that the Rhode Island Delegation in Congress introduce or cause to be introduced in the National Legislature such bill or bills as will remove from the protection of our patent laws any goods not manufactured in the United States. Under the English patent laws in force now for some little time, residents of the United States owning patents registered in England are obliged to manufacture in England such patented goods to a definite extent each year in order that the patent may be valid. It seems to us that if such a law had been in effect in this country before the breaking out of the European war we should not now be in the position in regard to a number of European products that we now find ourselves in.

This is an especially serious matter for our State on account of the large amount of coloring and printing that is done here with dye-stuffs practically all of which have been for many years imported from the countries now in a state of war. It has been stated in the House of Representatives by Mr. Metz that the small amount of dye-stuffs now here will carry the country but a very few months, and it seems as though it is practically impossible the next year or more, even with such assistance as the State Department is able to render.

If foreign manufacturers holding patents in the country are forced to take up the manufacture here or lose the protection of their patents it is quite possible that some effort may be made by them to use the resources in this country in such a way as to institute the manufacturing of all lines of chemical products here.

The situation in regard to medicinal products is also a very serious one, and many of these being synthetic products patented under our laws are perfectly possible of manufacture here. These illustrations are only two of the many products which are necessary to American people and large ones that come to our notice at the present time. We are given to understand that some of the larger chemical companies are interested in starting the manufacture of these materials here and are largely prohibited by the very fact that the patents stand in their way. It would seem as though this was the appropriate time for the Government to act in this matter and to act speedily and thereby possibly insure the continued operation of some at least of our mills. We realize that it will be a long while be-

fore operations on any large scale can be entered into, but we believe that the beginnings will be made if the necessary legislation is enacted at an early date.

We trust that you will consult your colleagues in this matter and will see that the bills are drafted and presented as may be deemed best after conference. What is needed is quick action and action that will enable those who are interested to show the larger chemical manufacturers the opportunity that exists for a permanent business.

This matter of course is of great interest not only to the East but to the wool growers of the West and the cotton growers of the South and we trust that you will see that the delegations from these States are thoroughly interested and will stand behind the bills that may be offered by one of your number.

Respectfully submitted,

Clarence A. Cotton,
Secretary.

John P. Farnsworth,
President.

The British Embargo and the American Wool Supply

Wool is essential for prolonged military operations outside of the tropics. That fact explains the prohibition on shipments of wool from the British Empire to foreign countries. The embargo, which prevents the shipment of wool and other products from British to non-British ports, has been extended to manufactured wool goods suitable for military use. The effect is the more serious for American wool manufacturers by reason of the purchases of wool in the neutral South American market for the belligerent countries, and by the difficulty in securing transportation of wool to the United States. These extraordinary measures have been taken for several good reasons; to provide the British soldiers and sailors with wool clothing; to prevent the wool from being used by the enemy. No exception can be taken to the embargo as a war measure, which the British authorities evidently consider necessary for not only the safety, but the existence of the Empire.

OUR PERILOUS SITUATION

The probable effect of such an order by the British Government is shown by the fact that of the 3,290,000 bales of wool (exclusive of carpet wool) imported in 1913 into Europe and North America, 2,788,000 bales (911,676,000 lbs.) came from the British colonies, and 502,000 bales (486,940,000 lbs.) from South America. What this emargo means to the United States is shown by the fact that, according to the best statistics available, the American clip in normal years supplies only 37 per cent. of the wool (scoured weight) used in this country and by the following statement of the wool (classified by countries of origin) which we imported in the year ending June 30, 1910:

Great Britain and colonies	lbs.	127,156,976
Other Europe		15,596,716
Turkey		9,262,975
Russia		19,760,535
South America		36,918,926
China		38,061,762
East Indies		6,396,012
Other countries		10,774,330
		263,928,232

The war has stopped our supply of wool from Turkey,, Russia and other Europe, amounting to about 17 per cent. of our imported supply. From the remaining 83 per cent. the British embargo removes 48 per cent. at one stroke, leaving us with an uncertain hold on the South American and Asiatic markets from which we obtain 35 per cent. of our supply of foreign wool. Assuming that the embargo will leave 35 per cent. of the foreign supply available, the United States is left with less than 60 per cent. of its usual supply of wool of all kinds.

There is, however, some relief possible, even if not actually in sight. It is reported that the British Government will allow merino wool to be shipped to the United States provided such wool is not required in England. To be dependent on a foreign government for one of the necessities of life is not particularly flattering to our pride. While we must make the best of things now, put our pride in our pockets and be thankful for the wool that Great Britain allows us to buy, the situation should teach a lesson not to be forgotten. The United States should be made as nearly self-supporting as possi-

ble so far as wool is concerned. To-day wool ranks in foreign countries with munitions of war as a necessity for the defense and preservation of national existence. To-morrow it may occupy that place in our own affairs. But it is not only as a munition of war that the wool we use should be produced on American soil. We should produce as much as possible of the wool we use in order to promote prosperity in time of peace. The greater our independence of foreign countries for the supply of not only wool, but of all kinds of goods, the greater will be the prosperity at home.

MAKING THE UNITED STATES INDEPENDENT

The two essentials in the development of the American clip are economy in production and a fair tariff to protect the American industry against lower costs abroad resulting, not from more efficient production, but from the difference between foreign and American prices paid for labor. That American wool growers recognize the need of keeping production in their industry at the highest possible degree of efficiency is shown plainly by the proceedings of the National Association of Wool Growers at the Salt Lake City meeting last month, and particularly by the address of President Frank J. Hagenbarth on that occasion. The growers should be aided in this work by the intelligent cooperation of the Government, State and national. Our present shortcomings in this respect are shown by a comparison of the official care given to cotton growing in the past with the almost complete neglect of wool growing by the government. From the time the cotton field is planted until the cotton is ginned ready for the mill, that staple is under the watchful care of an army of government officials, who record the acreage and the weather, note the progress of the tender plants from day to day, war on the boll weevil and other destructive pests and report the cotton as it is ginned and as it is stored at the mills. The care given by the Government to wool growing has been negligible. Wild animals and cur dogs have continued their depredations without any adequate measures of prevention. The official records of the clip have been so meager and slipshod as to be of little value, and but little official oversight is given to wool as it is grown, sheared, packed and shipped to the market. These shortcomings should be corrected without delay.

A TARIFF ON WOOL IS NECESSARY

The other essential is a fair and adequately protective tariff. The world war has temporarily made a protective tariff unnecessary, but hostilities may happily end tomorrow and must end in a comparatively short time. It is, therefore, as a peace policy that the tariff should be considered. This is a national question. A tariff on wool is needed primarily for the prosperity of the whole country and not alone for the benefit of the wool growers. The growers are advocating a tariff on wool to protect efficient methods of production against the lower money cost of labor in foreign countries. The overwhelming majority of the American people are in favor of fair and adequate protection to domestic industry. The political party that made wool free of duty acted against its will at the dictation of two men, the President and the Secretary of State, who on that issue represented but a small minority of their own organization. The Underwood bill had been framed to provide for a duty on wool, and in that form the statistical records of the Ways and Means Committee, as shown in our April, 1913, issue, had been actually printed when the order for free wool was issued from the patronage-dispensing branch of the Government. The object of this insistence on free wool by the free trade minority of the Democratic party was as plain as day. They hoped by depriving the wool grower of protection to divide the supporters of that policy and thus expedite the coming of free trade. This policy was admitted. Here is the declaration by Congressman Francis B. Harrison, the spokesman of the administration, in the House of Representatives on May 3 and 6, 1913:

> I regard the doctrine of free wool as the trumpet call in the battle against protection.
>
> Gentlemen are arguing that because we put wool on the free list, we ought to put woolen goods on the free list. . . .
>
> I do not like tariffs. I believe they are a bur-

den on the public. I think they are an injustice to the people of our country, and I think they are a wrong to the manufacturers as well. But we cannot put all of the articles carried in the tariff on the free list at once. . . . I believe, as I said the other day, that free wool is the greatest achievement of the present tariff bill. I think so not only for economic reasons, but because I believe it spells the doom of the system of protection in the United States.

AN APPEAL TO CLASS SELFISHNESS

This policy of discriminating against one class in order to gain the support of another has been extended to other products besides wool and marked by direct appeals to selfishness and sordid self-interest. Here for example is an extract from a speech by William J. Bryan before the Associated Press at New York on March 22, 1908, as reported in the Boston Globe the next day:

For a long time I was arguing tariff reform, but I could find mighty little support among the newspaper fraternity. I found after a while that I was too general; that to get the newspaper men with me I must be more specific. And so I went to my good friend, our German brother (pointing to Mr. Ridder) and asked him what I could do to be sure of the unanimous support of the newspaper fraternity in my advocacy of tariff reform. He says "Pulp", and I took it up, and for the first time in my life I found myself on the side of the majority. I congratulate you that there is at least one tie that binds, that there is at least one question upon which we can be sympathetic and work together; for it costs me something as well as you.

Mr. Bryan admitted that he had never been on the side of the majority until he attempted to bribe the press of the country with the promise of "pulp." We do not believe he was with the majority then. He has not been since and he is not now. He is not on the side of the majority of even his own party, which if left free of dictation, would protect wool growing as it protected mohair growing, and whose views were expressed in these words by Chairman Underwood on March 25, 1909:

I do say that, if the theory of the Democratic Party is a correct one, that we are only entitled to levy taxes for the purpose of raising revenue, then we should distribute taxation as broadly as possible, so that its burden may be borne equitably and evenly by all. That being the case, I do not see how a Democrat can justify himself in the position that what the manufacturer buys should be free and what the people use should be taxed.

It is not conceivable that the Bryan policy of dispensing special privilege and discrimination under the law can succeed in seriously dividing the country on the broad issue of protection to home industries. Wool supplies a striking illustration of what the American policy should be. The wool used in the United States should be grown here as a means of national defense in time of war and to promote the general welfare in time of peace.

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Cotton Reserves

The scheme to accumulate a vast stock of cotton in order to regulate the market value of the material throughout the world has possessed a strong attraction for many cotton growers and a comparatively few cotton spinners. For years "15-cent cotton" has been a rallying cry throughout the American cotton belt. Among the first to take it up was the Southern Cotton Association, whose plan involved the holding of the cotton by the growers throughout the South until the 15-cent price was reached. Later the idea developed into a business enterprise under the auspices of the Southern States Cotton Corporation, which proposed to buy the entire cotton crop and deal it out in such a way as to keep the price at 15 cents a pound. While the object of the growers was to raise the price of cotton, spinners have advocated the scheme with the idea that it could be used to keep the price of cotton down. Thus at the first International Cotton Congress at Zurich in 1904, Herr Kuffler, of Austria, outlined his cotton reserve plan as follows:

It is necessary to have a big amount of cotton in hand to be able to influence the market in the interest of the spinner. . . . If for every 10,000 spindles you take only 100 bales, we can handle a million bales of cotton and no risk with it. . . . Do you think it will take a million bales of actual cotton to break any corner? I think with a quarter of a million bales you can break any corner. I do not speak only of speculations to put prices up. Sometimes we have lost by speculation to bring prices down, and one was not more legitimate than the other. If we have the power to buy cotton at the rate of 100 bales per 10,000 spindles, we can buy when prices go down, and, if necessary, in the opinion of your Committee, the bales can be thrown on the market when prices go up.

At the Bremen Cotton Congress in 1906, the Kuffler suggestion was developed by E.

Lang, of Switzerland, into these definite proposals:

1. The establishment of an organization or a limited company comprising the entire cotton industry of the world, and of which individual spinners may become members without interfering in any way with their existing associations.
2. The formal engagement of this organization to buy a quantity of cotton of the most-required grades, prices and quantities to be fixed by the spinners themselves by means of votes or delegates. These details to be known at least one year in advance of the purchase.
3. The engagement of this organization to maintain this reserve intact until prices reach a fixed limit. This limit to be settled by the spinners themselves, and to be published beforehand in the same manner as the purchase price. The unconditional sale of this reserve at the fixed limit, either to members of the company or to outsiders. This for the purpose of regulating prices.

In order to determine the views of European spinners a series of questions regarding the Lang scheme was addressed to the various organizations of cotton spinners in England and on the Continent. The only favorable reply was from Switzerland, Mr. Lang's own country. France was non-committal. Spain considered the difficulties very great. Belgium looked on them as insurmountable. Italy felt that the expenses would be too great. Austria could see no necessity for it. Germany and England were unanimously opposed to it. These replies, which were submitted to the Vienna Congress, made it certain that the cotton trade of Europe was overwhelmingly opposed to the cotton reserve scheme. The idea remained neglectd until it was revived recently by the proposal that the British and United States governments advance the sum of $350,000,000 to purchase a reserve stock of cotton at the low prices that have prevailed since the war began. Strange to say this plan was recommended by Sir Charles W. Macara, president of the British Federation of Master Cotton Spinners, the organization which so emphatically condemned the scheme proposed by Herr Lang at Bremen in 1906. It was soon made plain, however, that President Macara did not represent the British Federation. On November 6 the General Committee of that organization took exception to the endorsement of the cotton reserve idea by unanimously adopting this resolution:

In the opinion of the General Committee no member of any committee or sub-committee of the Federation is entitled to express any views affecting the interests of the Federation in the press without first submitting them to the Committee for approval.

President Macara's reply to this was his resignation of the presidency in a letter in which he said:

I have no intention of surrendering my right to act or speak at a time of crisis in any way which my long experience leads me to believe to be for the interests of the nation. As the resultion passed by the General Committee would interfere with my freedom of action and render it impossible for me to carry on most of the important work I have done in the past, and which I intend to continue in the future as opportunity occurs, I beg to tender my resignation.

This incident makes it certain that the British cotton trade has not changed its position of opposition to the scheme to control the price of cotton by accumulating a reserve stock. With Great Britain engaged in financing the greatest war in history, and with the United States forced to adopt emergency measures for raising money, the time is particularly unfavorable for involving the two governments in such a financial alliance with private enterprise. Even under the most favorable conditions the plan would deserve no consideration. The governments of both Great Britain and the United States have thus far shown good judgment in the measures taken to meet the extraordinary crisis. They have aided in the restoration of transportation and exchange facilities, and in this country material assistance has been extended by the government in financing the cotton crop. There is a limit to what the government can and should do in connection with private business. To pass beyond that limit, as proposed by Sir Charles Macara, would be to embark on a sea of new troubles without finding a remedy for the old.

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Denmark and the British Embargo on Wool

The woolen and worsted mills of Denmark, like those of the United States, depend largely on foreign countries for their supply of raw material. As a result, the British embargo on wool threatens to bring the Danish mills to a standstill, as no other source of supply is available. The following items re-

garding the crisis are taken from German papers:

"Wochenberichte Leipziger Monatschrift fuer Textil-Industrie," Leipzig. The embargo on wool exports to neutral countries declared by Great Britain on October 7, has led the Danish government to seize under authority of law two lots of Australian wool stored in Copenhagen; one of them consisted of 70,000 pounds belonging to Bloch & Behrens, Toldbodage 19; the other a 70,000 pound lot owned by H. C. Jensen & Son, Saxogade 63.

"Zeitschrift fuer die gesante Textil-Industrie," Leipzig. The English embargo on the export of wool and wool goods and the seizing by the English of a number of cargoes of wool on their way to Denmark, has created a critical situation in the Danish woolen mills. If the embargo continues it is feared that the Danish factories will be forced to suspend operations at an early date. The Danish press is very pessimistic and does not believe that England will change her policy. It is expected that the Danish government will endeavor to get the embargo modified.

RELIEF OF WAR SUFFERERS

The National Association of Cotton Manufacturers, Boston, Mass., has issued the following circular letter, dated November 14, 1914:

Two enterprises relative to well-organized charitable work for the benefit of all sufferers through the European war have been brought to the attention of this Association, and the following is transmitted to the members for their information:

First. Miss Anne Morgan and Miss Gertrude Beeks of New York City have written the Association in the interest of the work of the Vacation War Relief Committee. Through the free Employment Bureau and Workrooms established by this Committee work with pay is being given to the unemployed women in New York City. Supplies are being made for hospitals and war refugees in Europe. The Committee has its own distributing agents abroad, thus assuring the immediate placing of such articles, at a minimum of time, expense and red tape.

If this commends itself to you, the cloth should be sent to the Vacation War Relief Committee, of the New York Woman's Depa-tment of the National Civic Federation, through Miss Anne Morgan, Treasurer, 38 West 39th St., New York City.

Second. Mr. William Firth, one of our members, is transmitting underwear and clothing for children, whether new or partially worn, to his daughter, Mrs. Richard Haworth, of Manchester, Eng., who is taking personal charge of their distribution where needed. Any such contributions, even if they are not of the present fashion, are equally acceptable, as they are just as warm. Shipments should be made to William Firth, 15 Columbia St., Boston, Mass., and mail advices sent to William Firth, 200 Devonshire St., Boston, Mass. The steamship lines forward these goods without charge.

Two lines of response are requested for the above, the first being those of direct donation; and secondly, those of the lowest wholesale price for which goods will be delivered, especially seconds and goods whose styles may be out of date.

It is understood that the distribution of these donations will be made to sufferers along worthy lines without discrimination or limitations except as to the amounts which are avalable.

Respectfully submitted,
Albert Greene Duncan, Pres.
C. J. H. Woodbury, Secretary

THE WOOL GOODS MARKET

New York, December 1, 1914.

The topic receiving the greatest attention in the woolen district at present is that of contracts for army blankets, overcoatings and uniform cloths, principally for the French government. Several million army blankets have been contracted for and many mills are at work making them with the utmost haste possible, as they are wanted at the earliest day they can be obtained. All are to be delivered by the last of December at the latest. A number of woolen mills are working on one contract, and many hundred cases of the goods are weekly being delivered, consequently the ships sailing for French ports are carrying large cargoes of blankets. During the latter part of the past months several large contracts, said to be considerably over one million yards, were made for twenty-five-ounce overcoatings for the French army. It appears that the delay in awarding these contracts has been caused by the difference in price between the buyer and the manufacturers. French prices are considerably lower than the goods can be bought for in this country, consequently there has been a paring of prices until profits have become doubtful.

Many woolen mills making carded wool fabrics have been short of work during the present spring season. The blanket contracts have furnished some of them with sufficient work to run their plants to full capacity until the end of the year and probably longer, as many more blankets, overcoatings and uniform cloths will be required for delivery during the early part of the new year. The French government has adopted a blue gray color for their army and this is the color now being made here on contracts, it is less conspicuous than the color they have been using.

The rigid embargo placed on wool by the

British government still continues and has become exceedingly perplexing to our manufacturers having contracts not covered with the requisite amount of wool and shoddy.

Contracts for probably three million yards of shirting flannels have been made here, also for the French army, and most of the goods were promptly shipped, as they are of a stale nature and many of them were held in stock, the mills making them are constantly turning them out in large quantities. In consequence of these contracts the manufacturers of them are experiencing an unusually busy season.

Importations of worsteds have continued from Great Britain.

Wholesale clothiers have had their travelers on the road for some time with disappointing results. Retail clothiers have not done their usual amount of business during the fall season, consequently they are carrying stocks of winter suits with small prospects of selling them, except at bargain prices; this causes them to avoid creating new liabilities when avoidable. The Southern retailers are reported as buying suits made of beach and tropical cloths of various kinds, almost exclusively and in limited quantities for their early purchases. Such fabrics being new and especially adapted to that section are undoubtedly destined to monopolize the trade there. They make low-priced two-pieced suits, which are just what are required by consumers. They also make more comfortable summer clothing than any other fabrics heretofore worn.

There have been extensive cancellations made on these fabrics, but the net result for the mills is liberal orders in the aggregate still on the books of practically all successful makers of the fabrics. Recently duplicate orders have begun to come in for them, mostly in comparatively small lots. These popular fabrics are quite sure of being the principle feature in sales of spring clothing and a large order business will yet be sent in for the mills making them. In some cases the mills cannot accept any more orders, being sold up to full capacity.

Cancellations on men's wear fabrics of all kinds continued very heavy during the first part of November, but during the latter days of the month, with cooler weather, they slackened considerably and some repeat orders were received, usually in small amounts. They, however, indicate that the worst is over and that a turn for the better has come.

Tailors to the trade have been hard hit by the serious situation in the South. A large percentage of their business is done in that section, consequently they are among the first to feel the effect of the limited business being done there. This trade has been noted as always taking the goods for which they placed orders, but now, for the first time, they have been compelled to cancel large quantities of all kinds of worsteds and woolens. Buyers do not seem to realize the seriousness of present conditions and cancel their orders on the slightest intimation that the goods may not be required. It is evident to those familiar with existing conditions that any fabrics being cancelled cannot be produced later, except at advanced prices. No doubt many buyers will be asking to have their orders reinstated at the old prices and they surely will be disappointed when they learn that higher prices are imperative. It is many years since wool manufacturers were pleased to get cancellations, as some of them are now.

The situations at the various fancy worsted mills differ widely. Many of them are well sold on initial orders, while some are sold up for the season. This is especially so with some of the largest and most prominent mills. There as usual are a number not so fortunately situated and they are in the decided majority.

The dress goods market has been very quiet during November without any special feature. Large cancellations have been received on practically all fabrics. These have been offset to some extent by new orders having been placed. There was a large business done early in the season by many mills and, with all cancellations off. The various fabrics in most instances remain well distributed. This places them in line for a good duplicate business when trade takes a fresh start.

One feature is the return to favor of coverts which have been well distributed in

sample lots at prices ranging from $.67½ to $1.60 per yard. Sample garments both in women's suitings and coatings have been prepared and the dealers have great confidence in their liberal sales, with a return to popularity of the fabric. Among the new colors are a light drab or "putty" color and a light tan or "sand" color. In dress goods staple colors have been favored in poplins, gabardines and some serges.

The recent cold weather created a demand for heavy spot goods and knotted effects for women have sold well. All kinds of fabrics that would make mens' coats that could be called balmacaans or mackinaws have been freely sold and stocks cleaned out.

Selling agents and mill men are giving their attention to fabrics, colors and styles for the fall and winter season of 1915. Sample blankets and new selling ends are in evidence in many offices. Some striking novelty effects are being made, as indications are that the craze for fancy effects is to be continued another season.

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THE AMERICAN ASSOCIATION OF WOOLEN AND WORSTED MANUFACTURERS

The eighth annual meeting of this association was held at Delmonico's, New York, on December 3, with about fifty members in attendance. In his address, the retiring president, R. A. Strong, condemned the Underwood tariff, of which the effect has been interrupted temporarily by the war. He congratulated the members on the improved relations with the clothiers and called attention to the value of the credit department The future, he said, was certain to bring new and perplexing problems, and it was important that the members of the woolen and worsted trade should cooperate actively in their solution. President Strong urged that, if possible, every American manufacturer of wool goods be enrolled in the membership. Speaking of the "Made in the U. S. A" campaign, he said:

I believe there is no one present who would dispute the statement that Americans, as a people, are as patriotic as any on the face of the globe, and yet it is a fact that the average American prefers to buy an article with the label "imported" on it. It is, however, important to take steps to overcome this prejudice against things American. As individuals we can do a little—and yet but a very little. As a powerful body representing most of the manufacturers of woolen fabrics in this country we can, if we will, become a very real factor in moulding public opinion through the medium of the press.

John P. Wood addressed the meeting on the "pure fabrics" bill and the work of the Textile Bureau. The election of officers resulted as follows: President, Robert T. Francis; first vice-president, George C. Hetzel; second vice-president, George B. Sanford; secretary and treasurer, J. J. Nevins; directors, Richard A. Strong, A. M. Patterson, George C. Hetzel, A. L. Gifford, Herbert E. Peabody, Jacob F. Brown, Frederic S. Clark, George B. Sanford, Robert T. Francis, Eli Gledhill, W. J. Battey, Austin T. Levy, Rowland Hazard, Malcolm D. Whitman and John P. Stevens.

After President Francis had addressed the meeting the reports of the secretary, board of directors, executive committee and the joint committee of woolen and clothing manufacturers were presented. The report of the executive committee included the following letter on the wool embargo, which had been sent to the Secretary of the Treasury.

Sir: We respectfully call to your attention the following facts:

First: The British Government has placed an embargo on the export of wool from the United Kingdom.

Second: The British Government has placed embargoes upon the export of wool from the British Colonies to other ports than those of the United Kingdom.

Third: It is not practical to import wool from South America, because British Steamship Companies which control transportation from Argentina and Uruguay are understood to have been forbidden to accept wool from the ports of those countries from any other destination than the United Kingdom.

Fourth: We state of our own knowledge that large amounts of wool and tops have been and are being exported to the United Kingdom and the British Colonies specifically Canada.

Fifth: Importations of wool textiles continue from Great Britain, France and Germany in large volume.

The depressed conditions which previously existed in this industry are therefore greatly increased by the difficulty of obtaining new material even at enhanced prices, while the very countries which prevent our obtaining such material on the plea of scarcity are shipping and will continue to ship fabrics made from it.

On behalf of the mills constituting this association, we respectfully petition that measures be

taken to preserve for the benefit of this country the textile material required here.

Respectfully,

American Association of Woolen and Worsted Manufacturers.

President.

The banquet in the evening, which was largely attended, was given up to jollity. President Francis presided and an address on the people of the North Country was made by Irving Bacheller. An entertaining feature of the occasion was a series of cartoons of men in the trade, shown on a screen during the banquet.

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THE SOUTHERN TEXTILE ASSOCIATION

The meeting of this association was held at Birmingham, Ala., on November 13,, with about one hundred and twenty-five members present. The meeting was called to order by President E. E. Bowen, Greers, S. C. Addresses were made by Judge Lane, of Birmingham, and President Shook, of the Birmingham Chamber of Commerce. Scott Maxwell, of Cordova, Ala., welcomed the association to the city. Joseph E. Brendle, overseer of spinning, Huntsville, Ala., responded to the welcome. S. J. McCaughrin, of Birmingham, made an address which commanded close attention.

There was a trolley ride in the afternoon to Fairfield, a model mill village. The somker in the evening was well attended. T. H. Rennie, of Pell City, Ala., gave a very interesting talk on "The Relation of Employer to Employe," which was in part as follows:

The old ideas drilled into every young man who was on the way to be an employer was "Business in business." Sympathy, help or consideration for the employe was eliminated; that the employe was one of the most valuable assets of industry, was not in evidence, and that cooperation and mutual confidence were not recognized in the partnership. Andrew Carnegie in his book, "The Empire of Business," compares the scheme of the world's work to "The Three-Legged Stool." I quote it here because, to my mind, it is a classic on this subject.

"There is a partnership of three in the industrial world when an enterprise is planned. The first of these, not in importance, but in time, is capital. Without it nothing costly can be built. From it comes the first breath of life into matter previously inert."

The structures reared, equipped and ready to begin in any line of industrial activity, the second partner comes into operation. That is business ability. Capital has done its part. It has provided all the instrumentalities of production; but unless it can command the services of able men to manage the business, all that capital has done crumbles into ruin.

Then comes the third partner, last in order of time, but not least, labor. If it fails to perform its part, nothing can be accomplished. Capital and business ability, without it brought into play, are dead. The wheels cannot revolve unless the hand of labor starts them.

Now, volumes can be written as to which one of the three partners is first, second or third in importance, and the subject will remain just as it was before. Political economist, speculative philosophers and preachers have been giving their views on the subject for hundreds of years, but the answer has not yet been found, nor can it ever be, because each of the three is all-important, and every one is equally essential to the other two. There is no first, second or last. There is no precedence. They are equal members of the great triple alliance which moves the industrial world. As a matter of history labor existed before capital or business ability, for when "Adam delved and Eve span." Adam had no capital, and if one may judge from the sequel neither of the two was inordinately blessed with business ability, but this was before the reign of industrialism began and huge investments of capital were necessary.

In our day, capital, business ability, manual labor are the legs of a three-legged stood. While the three legs stand sound and firm, the stool stands; but let any one of the three weaken and break, let it be pulled out or struck out, down goes the stood to the ground. And the stool is of no use until the third leg is restored.

Now the capitalist is wrong who thinks that capital is more important than either of the other two legs. Their support is essential to him. Without them, or with only one of them, he topples over. Business ability is wrong when it thinks that the leg which it represents is the most important. Without the legs of capital and labor it is useless. And last, let it not be forgotten, that labor also is wrong, wildly wrong, when it assumes that it is of more importance than either of the other two legs. That idea has been in the past the source of many sad mistakes.

The three are equal partners of a grand whole. Combined they work wonders; separate, neither is of much account. Thus far, notwithstanding the difference that from time to time have unfortunately rent them apart, they have made the closing century more beneficent than all that have preceded it. Humanity, the world over, is better than it has ever been, materially and morally, and I have the faith that it is destined to reach still higher and loftier planes than even the most sanguine have imagined.

Capital, business ability and labor must be united. He is an enemy to all three who seeks to sow seeds of disunion among them.

The relationship existing between employer and employe has radically changed in the past twenty years. The change has been for the betterment of the employe and has resulted in the broadening and humanizing of the employer. He no longer looks upon the employes in his enterprise as machines, but as human beings, that for a time are under his special care. "In a nut shell," he cannot ask, "Am I my brother's keeper," without receiving an affirmative answer. These changes consist of better working conditions, higher

wages, shorter hours, more comfortable homes, better schools and a general uplift in morality and citizenship. Employers did not start these reforms because they desired to be known as philanthropists, but because they had learned that it was a wise business policy to improve the personnel of their employes. Overworked, underpaid, poorly housed, badly nourished employes are not an economical industrial asset, is the verdict of business today. It has been said by employers in the past that there was great danger that the masses of the people might become too well educated to be content in their useful and necessary occupation. Present conditions contradict this unqualifiedly.

Addresses were made by David Clark, editor of the Southern Textile Bulletin; J. T. Rose, Atlanta, Ga., on "The Textile Industry of the South"; Dr. E. H. T. Foster, Charlotte, N. C., on "The Y. M. C. A. a Factor in the Textile Industry. Ashville, Ga., was named as the place of meeting in June, 1915.

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THE NATIONAL ASSOCIATION OF WOOL GROWERS

The fifty-first annual meeting of this organization was held at Salt Lake City on November 12-14, with an unusually large number of wool growers present. The interest in the meeting was stimulated by the unusual situation that has developed in the wool trade as a result of the European war and by the general belief that the present was an opportune time for wool growers to confer regarding the needs of their industry and the policies that should be adopted for the future. President F. J. Hagenbarth delivered the following business like address that was warmly commended:

It is my duty as your official head, on this occasion which marks the 51st annual convention of the National Woolgrowers' Association of the United States of America, to address you concerning the state of the industry and to make such observations and suggestions as seem pertinent to the occasion.

Like a patient who has been stricken with a dangerous illness, we might say that the woolgrower has passed through the crisis, and finds, much to his surprise, that his illness was not fatal and that he is a well man and able once more to buffet the world.

THE TARIFF

I doubt if there have been many conventions of this association held wherein the question of the tariff has not been discussed to a greater or less degree. With me, at this time, the subject will be taboo, except in so far as to answer one proposition that has been advanced. I have heard it repeatedly urged that the higher prices obtained for wool and mutton this year were owing to the fact that we are operating under a free wool tariff. The proponents of this suggestion cannot successfully bestride two horses at once, going in opposite directions. They cannot correctly state that free wool enhances the price of wool and at the same time brings cheaper clothing to the consumer. One proposition or the other must be abandoned. My statement is that the woolgrower has been prosperous in spite of and not by reason of the Underwood tariff of 1913.

The proposition that the woolgrower is to be placed on a par with the other industries of the country and receive his proportionate amount of direct or indirect assistance through either a tariff for revenue only or a protective tariff, is an idle dream. Even our Western representatives are against us. If the industry is to survive, it must henceforth be naturally and unaided. "Efficiency and Economy" from now on must be inscribed high on the banner borne by the successful shepherd.

THE WOOL INDUSTRY

The past 100 years have seen great changes in the physical distribution of the woolgrowing area in the United States. Early in the century its seat was in New England, especially in Vermont, then followed Pennsylvania. About the time of the civil war it had obtained a footing in what was then known as the Western Reserve and from then on developed rapidly, especially in Ohio, West Virginia and Kentucky. Later, in the 70s and early in the 80s, the industry developed to a considerable extent in Michigan and Indiana, with scattered flocks throughout Illinois and Iowa. In the 80s began the tremendous feeding industry of Nebraska and Iowa, which became wool producing as well as mutton feeding States Shortly after the civil war, California began the development of the merino and produced some of the finest merino wool and the largest sheep of that class that the country has ever seen. Texas and Oregon followed with millions.

The last 10 years of the last century and the first decade of the present century saw the rise of Montana and Wyoming, the former with 7,000,000 and the latter with 6,000,000 sheep. Up to 1893 woolgrowing was the staple business of the shepherd in this country. After the disastrous period embraced in the last four years of President Cleveland's administration, when wool was worthless, the shepherd had learned that the mutton side of the sheep must be developed as well and from that time there has been such a tremendous shift of sentiment that today we find the production of meat is the primary business of the shepherd and the growing of wool is secondary. Twenty years ago the mutton breeds began to be imported into the United States from England in considerable quantities, and since then the movement has increased to great volume.

This pursuit after mutton has become so universal and so pronounced that there is serious danger to the industry by reason of reflex action.

By this I mean that our shepherds have largely not only neglected wool, but through the process of marketing all their she lambs are liable to be left in the next few years with nothing on their hands but a lot of shelly old ewes. When the rehabilitation of their flocks with young breeding ewes shall have then begun, this country will witness the greatest scramble for this class of stock that has ever been seen in its history. Those who are far-sighted enough to maintain and breed their she lambs will come out on top.

During these processes we have gradually seen an increase in the production of sheep in the western half of this continent until today the seat of the industry has moved from New England into the Rocky Mountain States. In the past five years, even in this section, flocks have decreased, especially in Montana and Wyoming, where the reduction has been 40 per cent. Texas, California and Oregon now rank low as woolgrowing States. Old ranges and old customs are now past. New feeding grounds and new methods are in vogue.

THE FUTURE OF WOOL GROWING

My object in thus briefly outlining to you the past of the industry is to form a judgment from the history of the past what the future may be You have noted that there has been constant changing and shifting of scenes. Twenty-five years ago hundreds of thousands of sheep, I might say millions, were trailed from New Mexico, Arizona and Oregon across the Great American Desert to the feed lots of Nebraska and Iowa. Today not a single herd so passes. Twenty-five years ago the feeding of lambs was practically unknown. Today the man who feeds wethers is a rarity. And so it goes all along the line. There has been change everywhere. This teaches us that we are to look forward to changes in the future and it is my mission today to call your attention to what I think these will be and wherein lies the course to be followed by the successful shepherd of the future.

THE NEEDS OF THE INDUSTRY

In making an analysis of the situation based on 30 years actual experience and on an observation which has embraced the industry in every phase throughout the world, I have come to the conclusion that if the industry is to endure the following factors must first be considered:

First, Woolgrowers must learn to be real shepherds; breeding must be properly practiced; preparation of products must be scientific, and the marketing of the same must be on new and improved lines.

Second. There must be better coordination between the various factors in the business. By this I mean that our affiliation and understanding must be closer and better defined with the railroads, with the packers, with the wool dealers and wool manufacturers and with the bankers. All of these interests must be imbued with the idea that the upbuilding and promotion of the wool industry is a patriotic duty.

Third. Legislation, both national and State. We need proper land and leasing laws; provision for fenced areas on long leases, allowing improvement of ranges; proper bounty laws; laws preventing the use of inferior rams; and enlarged interest in the industry on the part of State agricultural colleges and the Department of Agriculture.

Fourth. Feeding and care of flocks; the elimination of unfit animals from our herds; proper cross breeding; the shipment of fat stuff only to market, and the finishing of feeders at home.

Fifth. Organization; the shepherd must learn to support his State and national associations. He should support those institutions which are striving for the upbuilding of the industry, especially the National Woolgrower and the National Wool Warehouse and Storage Co. Lamb sales and stock shows should be encouraged.

After briefly enumerating the above factors it may be well to enlarge to some extent on each one as we move along.

IMPROVING THE CLIP

How ridiculous it is for a shepherd to maintain a flock shearing two pounds less wool per head than it should be shearing: marketing 70 per cent. of inferior lambs where 85 per cent. of toppers should have been had; and marketing both wool and mutton in the most primitive manner.

A little casual observation throughout the world will teach us that the success of the two great wool producing areas, Australasia and South America, is largely due not alone to climatic conditions, as has been geenrally urged, but by reason of proper breeding and care of flocks and marketing of products. Within the last 25 years South Africa has proved the entire proposition. Twenty years ago South African wools were considered the least desirable on the market Today they are considered serious competitors against the best Australian wools. Can we say as much for our own country? Except in isolated instances, the wools produced in the West today are no better than they were 25 years ago During the past five years, largely owing to the campaign inaugurated by the National Wool Warehouse Co., it is true there has been marked improvement in the methods of packing and marketing of wool, but the breeding side is still largely neglected.

MARKETING WOOL

In the matter of marketing wool it is generally admitted that Australia has a system that is well adapted to her conditions. It does not follow, however, that that system would be successful here. In fact, Australian wools are today not nearly so well prepared for market as they were 10 years ago. In some sections their wools are put up just as ours are. Further, Australian methods of marketing are vastly different from ours. We have no auction sales. We have no wool exchanges. We have no defined standard. We must prepare our wool to suit the market which we have in this country, as that is where it must be sold. There is room for improvement, however. If we take out the tags and other objectionable parts, grade and then bale our wool, it will be better suited to our market today than it would be if sorted and classed as is done in parts of Australia. This entire subject should be

placed in the hands of the National Wool Warehouse and Storage Co., and I am sure they will work out a satisfactory system of preparation for market, which will not entail a needless expense upon our people without corresponding benefit. Mr. Cosgriff deserves the thanks of every woolgrower for the pioneer work which he has done in this direction.

FREIGHT RATES

It is a pleasure to be able to say that during 25 years past the sheep industry has never been given as good treatment as it has during the past year by some of the railroads. This result has been brought about by bringing to the attention of the transportation agents the abuses that had heretofore obtained. This result was accomplished without legislation and, I believe, is going to be enduring.

ABUSES TO BE CORRECTED

In like manner, other abuses may be corrected. For instance, certain methods practiced by the wool dealers in the matter of taxes which they charge against woolgrowers. I refer to the discount of 50 per cent. of rams' wool, which is usually about the best part of the clip; unreasonable allowances for tags; the purchasing of wool on the sheep's back by contract, which is unmitigated gambling, and whereby anyone, whether he has a knowledge of the wool, its shrinkage, qualities of the clip and consequent values, can buy wool, whether he knows anything about the commodity or not. He is all right as a wool buyer just so long as the house which he represents is a good gambler. This practice should be stopped.

BANKING FACILITIES

Then again, the credit of the wool man should be built up with his banker. There are large financial institutions in the United States which would be glad to furnish money for the feeding of sheep in the West for market, provided they were made acquainted with the fact and advantages pertaining to the movement, and it is up to us to move. In like manner, when we have convinced our local bankers that we are conducting our business along legitimate, scientific lines and are making proper preparations against possible loss in wintertime by providing hay, corn, cottonseed oil cake, or linseed oil cake, he will come to realize that no better security can be offered. In order to do this, however, many of us must abandon the slip-shod methods of the past.

LAND LAWS

In my address last year I devoted some space to the discussion of this subject, and not only wish to reiterate all I said at that time, but will again dwell on the subject of proper lease and land laws.

A commission should be appointed which will make a proper classification of all unoccupied government domain. This area should be segregated into sections most suitable for grazing and most suitable for agriculture. These sections so determined as being for the greatest good to the greatest number for grazing purposes should be strictly set aside for grazing, and no entries allowed thereon.

Suitable long time leases should then be granted to stock growers whereon it should not only be optional, but compulsory, that he properly develop and use the same, by the building of fences and construction of reservoirs and ditches and such other improvements as are necessary to fully develop and protect the grazing area in question.

THE MEAT SUPPLY

There has been considerable economic discussion throughout the country, bewailing the decreasing meat supply. In the face of this situation, why should not the powers beset themselves the task of increasing the supply of this important commodity by affording consistent encouragement to the further development of cattle and sheep growing; such encouragement would increase the supply and should lower prices. At the present rate, consumption must decrease or prices must go high. It is an economic question worthy the best attention of the entire country.

Another law that is badly needed is the bounty law. There are about 240,000,000 acres of land in twelve Western States withdrawn from entry in one form or another. On these lands is the breeding ground of wild predatory animals. Such lands are under the jurisdiction of the United States government, and the stockman whose tenure is uncertain is not justified, nor is he to be called upon for the extermination of these plagues.

PREDATORY ANIMALS

Thousands of sheep are killed annually on our forest reserves and thousands of lambs perish before they ever reach their summer grazing grounds. Congress has this year appropriated $50,000 for an investigation of this subject. Congress should give the forest service at least $200,000 annually for the destruction of wild predatory animals in the forests and an equal amount should be devoted to the clearing up of other government lands.

I must say that it is thoroughly discouraging to the officers and directing factors in your organization to note the lack of support that is given the National Woolgrowers' Association and the National Woolgrowers' Journal by the shepherds of this country. I believe it is pure diffidence on your part. I trust that some radical means may be adopted at this convention for the extension of your powers for good and the strengthening of that which is yours and yours only.

In like manner, I think that every woolgrower should rally to the support of the National Wool Warehouse and Storage Co., which has been a great factor in the uplifting of our industry and whose plans at the present time are so broad and liberal that no woolgrower should fail to support it, if for no other reason than that of enlightened selfishness.

THE SHORTAGE OF WOOL

The shortage in the world's wool supply in 1913 was equal to the total American clip, causing an advance of 30 per cent. on the London market. This shortage was caused in part by drought in Australia, declines in South America, destruction of sheep in southeastern Europe and a loss in sheep numbers in the United States. One of the

prime factors throughout the world causing declines in woolgrowing is due to the restrictions caused by devoting land to other purposes. Many great Australian flocks have been dispersed. The only country showing a decided increase in woolgrowing is South Africa. Even Europe is discarding the sheep. Great changes in the character of wool are shown. The merino is declining and the crossbred increasing in Australia at the rate of 2 per cent. per annum.

CHARACTER OF THE CLIP

One-third of the Australian wool clip is now crossbred, 85 per cent. of Argentine wools is likewise crossbred. In the United States, crossbred wools have greatly increased in the past ten years. Of all the wool sold in London in 1895 only 31.7 per cent. was crossbred; last year about 52 per cent. was crossbred. This going to crossbred wool is largely accounted for by the increased demand for meat. A few years ago wool was grown one year and used the next year. Consumption has now caught up with the supply, and we are using our wool the same year as it is grown. There has been practically no old wool carried over in Boston since 1912. This country will have consumed nearly all of its domestic wool by Jan. 1, 1915, and had it not been for the war, the future could reasonably have been predicted.

WOOL AND THE WAR

War usually advances wool prices, but never before have all the chief woolgrowing countries, save one, been at war. However, during war men consume five times as much wool as during peace. The wools most used for clothing purposes are crossbreds and pulled wools; pulled wools, as you know, are those taken from the pelts of sheep which have been slaughtered for mutton. Crossbred and pulled wools advanced from 1 to 3 1/2 cents per pound at the last London sale. Fine wools, however, declined about 2 cents per pound, but have since advanced. Certain pulled wools advanced as much as 10 cents per pound.

It is quite probable that crossbred wools now entering so largely into consumption will become so dear that merinos will take their place, and this will advance the price of merinos. The average cost to buy wools abroad and lay them down in Boston is 2 cents per pound. This cost has now increased to about 4 cents per pound, a fairly decent tariff in itself. At this time there is a lack of ships in which to transport wool It is further predicted that in 1915 the Australian wool clip will be 75,000,000 pounds short as compared with 1914. There is no question but what our own wool clip will be decidedly short.

Germany has 6,000,000 sheep, France 16,000,000, England 27,000,000, Russia 45,000,000, Austria-Hungary 13,000,000, Portugal 3,000,000, Servia 3,000,000, Montenegro and Belgium 600,000. All of these countries are, or will be at war. Sheep are being driven behind the armies for food, and it is only a question of a short time at the present rate of destruction until fully half the sheep in Europe will have disappeared.

THE WORLD'S WOOL SUPPLY

In summing up the available wool supply of the world today, I do not believe the question can be stated with greater force than to call your attention to the fact that since 1895 the population of the world has increased 30 per cent. On the other hand, there has been no increase in the numbers of sheep, except in Asia, which does not produce much wool used for clothing. These are principally carpet wools. In 1913 the world produced 2,880,889,000 pounds of wool, being within 5 per cent. of the wool produced in 1895. We are therefore, safe in stating that in proportion to population there has been a decrease of between 20 to 25 per cent. in the available supply of wool for clothing purposes since 1895.

PROSPERITY FOR WOOL GROWERS

It is a pleasure to say that at this time the credit of the sheepman at the banker's is generally good. A different picture from what it has been during the past few years through tariff agitation. From now on we should hold the game in our own hands. With good bank credits; large production in the West of proper feeding materials; with better railroad service and great improvement in stockyard service; with high prices sure, for wool, at least the coming year, and for mutton from now, it seems to me that our future prosperity lies in our own industrious hands and that if we will march under the banner of "Economy and efficiency" nothing can bar us from landing within the gates of prosperity.

The report that Secretary Bryan intended to ask the British Government to lift the embargo on shipments of wool to this country stirred the convention and strong resolutions of protest were adopted. Resolutions were also adopted in favor of a duty on wool, asking Congress to make no changes in the land laws until the public domain has been classified, urging a federal apppropriation for the destruction of wild animals, favoring a pure fabric bill, the better inspection of imported meat, and protesting against a law compelling the dipping of sheep. President Hagenbarth and Secretary McClure were unanimously reelected.

The papers and addresses covered the following subjects: Better Breeding of Sheep, Regulating Shipments of Lambs, Preparing Wools for Market, Poisonous Range Plants, Cost of Running Sheep in Fenced Pastures, Damage from Sheep Tick, Feeding Cottonseed Meal on the Range, Better Types of Range Ewes, Public Auction Sales of Rams. Grazing Sheep on Utah Forests.

Secretary Redfield and the Textile Industry

Department of Commerce,
Washington, Dec. 2, 1914.

Editor Textile World Record, Boston, Mass.

My dear sir: On page 57 of your November issue, as part of an article which honors me by its attention, I find these words:

> "What degree of efficiency is he (myself) exhibiting in the Department of Commerce?"

and the following page suggests that Secretary Redfield "devote himself to a searching examination of the cost and efficiency of the Department of Commerce."

I commend these practical suggestions.

Two obligations rest, in my judgment, upon any executive officer. The first is, if I may venture to use words of my own which you quote, that he "do the best he can," and the second is taken from the same page, "be willing to learn."

(a) I leave to others the question what has been accomplished in the Department of Commerce since March, 1913. Will you select a group of textile manufacturers in whom you confide, and ask them, either in person or by representative, to make a searching examination of the facts as they are here today compared with those that existed twenty months ago? Let them choose a public accountant and a trained efficiency engineer to make their inquiry. The work of the Department shall be laid openly before them, and their report, whatever it may be, may be printed with my consent. Such an inquiry would be a friendly act, for there can be but one sane attitude toward trenchant criticism of efficiency. It is the doing of a kindness, nothing more nor less than that, for if when my efficiency is questioned by you the fact is established of inefficiency, both the Department and the public whom it seeks to serve are the gainers thereby. The Department has learned something it did not know before, and it should be large enough in spirit to take advantage of the broader light and the added wisdom.

On the other hand, if the inquiry should prove that efficiency existed it would be a satisfaction to have this established out of the mouth of impartial witnesses. If I may venture to express a hope, it is that the Department would be found rather more efficient than when we took charge. Being, however, a human thing, run by fallible men, with the normal weaknesses of human nature, it is not perfect, and he who makes it better does a good deed.

You see, Mr. Editor, my position in this matter is not unlike that which you criticise in your article, namely, that I can with one breath express my hope and belief that the Department is fairly efficient, more so than before, while at the same time I can also say with equal truth that being a human work it is probably not as efficient as it ought to be, and that he who will point the way to greater efficiency will render a service in so doing.

(b) To show you, however, our modest efforts toward efficiency, I hand you herewith the sheets —25 of them—showing the cost in detail of the Lighthouse Service for the fiscal year ended June 30, 1914. With them is a copy of the instructions for cost keeping in this service, dated July 1, 1914, and a memorandum signed by the Commissioner of Lighthouses dated November 19, which deals with the cost of running this system and states the principal economies effected by the Lighthouse Service since it became a portion of this Department. It is not claimed that the present Secretary is responsible for the conditions shown. They are due to the skillful management of the Commissioner of Lighthouses, who has long had that great service in charge. I trust to have cooperated with him sympathetically. Possibly, in view of your suggestion that I lay "emphasis on the necessity for increased appropriations," you would be willing to print the enclosure, which shows that this part of the Department is doing a much larger volume of work than heretofore at a cost of some hundreds of thousands per annum less. This particular branch of the service is selected because it is the largest we have and expends nearly half our total appropriation.

(c) May I ask, in placing before you in minute detail the cost accounting system of the largest service in the Department, that you furnish me without identification facts on a similar basis which show in equally minute detail the cost of operation of say one-quarter or even one-eighth of the textile mills, concerning which you are so intimately informed? It would be a gratification to learn the thorough way in which a large percentage of any great industry is giving scientific study to this all-important matter, and it would be a very welcome addition to the literature of industry to have it shown that an accurate and searching cost accounting system had been widely adopted by such a leading industry as the textile one. I must assume from your article that you believe this department to be less careful in such matters than the private industries whose interests you so ably reflect, and therefore I await with anticipation the forms which shall enable us to learn from the thorough cost accounting systems in the textile trades evidence by means of which our own methods can be improved. Any suggestion on this important subject will be welcome.

(d) Meanwhile may I point out certain apparent oversights in your article. You say:

> "A few months ago he (I) sent around the country an exhibit of wool goods collected abroad to show the possibility of selling American woolens and worsteds in foreign markets," etc.

You omit by inadvertence to say that the American Woolen Co. requested the assistance of the

Government in this matter; that they drafted questions to be sent to consuls and indicated the consular officers to whom they were to go. By a like inadvertence you omit to say that the consular officers are not in this Department. The questions were sent out by the Department of State on March 12, 1914, through a circular (No. 286) in which these are the first words:

> "A desire has been expressed by American woolen manufacturers for information," etc.

The list of consuls indicated by the American Woolen Co. included officers in China, Japan, Ceylon, etc. The whole matter was original with the woolen industry and was carried out by the Department of State. After the information for which the industry asked had been obtained by the Department of State and was sent to us, we furnished it to whomever it might concern for what it was worth. Would you have had us suppress it?

(e) In addition to the information thus obtained at the request of the American Woolen Co. certain reports were submitted by consular officers in response to direct inquiries received from Mr. Samuel S. Dale, Editor of the Textile World Record, Boston. For these inquiries and the results of them the Department of Commerce was not responsible. It gave the answers it received to those whom they concerned, as it was in courtesy bound to do. None of these inquiries were originated or directed by the Department of Commerce. I fear you forgot this.

(f) On page 56, you do not say in what speech the first paragraph which you quote from me appears. I recognize as my own the three last paragraphs you quote, but the first one is a stranger. My confidential secretary, who accompanied me to New England, does not recall it. Where were these words said and when?

(g) As respects what you are pleased to say about my letters of June 11, 1913, and your suggestion that in a reply made you in February last I showed that there was no system "that would show either its cost or its utility," referring to the investigation of foreign markets for cotton goods by this Department, let me say that the letters are public records, open to all, and are perhaps open to a rather more considerate interpretation than you have been pleased to place upon them.

(h) Meanwhile, it may interest you to learn that when Mr. Ralph M. Odell, who conducted abroad many of these cotton inquiries, was to leave for the Far East, where he now is upon the same business, a letter was written by Mr. Edward N. Vose, Editor of Dun's International Review, on August 12, 1914, in which are these words:

> "May I ask you if it will not be possible to have Mr. Odell kept at New York for at least five or six weeks, in order to give an opportunity to American manufacturers of cotton goods in New England, and their export selling representatives at New York an opportunity to confer with him regarding the best methods of capturing a larger part of the world's billion dollar trade in cotton goods.
>
> "I have read Mr. Odell's excellent reports with great interest and feel that it would be of vital importance to have him here in order to advise manufacturers regarding the score of different markets he has visited."

You seem also to have overlooked the following resolution of the National Association of Cotton Manufacturers adopted unanimously at its ninety-sixth meeting on April 30th, in Boston:

> "Resolved: That the National Association of Cotton Manufacturers cordially endorses the policy of the United States Department of Commerce in sending special agents to explore the opportunities for American merchandising in foreign countries; and it also commends the Daily Consular and Trade Reports as a means of promptly furnishing valuable information to commercial interests."

With that broad spirit of equity and calm which distinguishes your influential journal, I am sure you will be glad to receive and to publish the resolutions of various organizations of textile manufacturers and bodies related to the textile industry which have spoken in strong terms of the value of the work of Mr. Odell and his fellows, and with the understanding that these will be printed by you they will be forwarded to you.

(i) On page 56, where you use the words "do as much work," the statement is hardly correct. A closer examination of the document to which you refer will show you that was not said.

(j) As regards the extracts you made, not with entire accuracy, from speeches of my own, I will in confidence and not for publication, but as evidence of good faith, and in the presence of witnesses if you desire it, willingly give details of names and places wherein each event occurred. It was not a man in a Japanese cotton mill who wrote me as you said, but the president of the company, and the English employer who told me a certain thing about wages was in a true sense an associate of mine at whose house I was staying at the time.

(k) Finally, perhaps, I may suggest that the statement respecting Ceylon on page 58, in which you state:

> "where not more than one person in 40 wears more than a cotton loin cloth,"

seems hardly original with you but appears in this form in the report of the American Consulate at Colombo, Ceylon, who says, in answer to one of the above-named inquiries:

> "out of its 4,100,000 population probably not more than 100,000 habitually wear any other clothing than a piece of cotton cloth around the waist."

I congratulate your editor upon skill in condensation.

(l) Perhaps you will permit me to discuss with you later other steps toward efficiency in the Department, such, for example, as that the census

this year, of wealth, debt and taxation is being gotten out in half the time that its predecessor took, and at a cost of $150,000 less. I have trespassed, however, too far upon your courtesy for one occasion.

I beg to remain,

Yours very truly,

William C. Redfield,
Secretary.

Secretary Redfield's letter is given in full, and we have inserted the bracketed letters to aid us in condensing this necessarily brief comment.

(a) The challenge that we select a group of textile manufacturers to investigate the Department of Commerce sounds well, but it is both impracticable and irrelevant, as a reply to our specific criticism of that Department's work.

(b) The reference to the light house service is also irrelevant. Conceding all that Secretary Redfield claims for that service, our November comment on the Department's work in connection with textiles remains untouched. The light house service is one thing; the Department's work on textiles is an entirely different thing.

(c) When the responsible head of one of the great departments of our government, whom the law arms with ample powers to go into the mills and investigate the industries of the country, publicly stamps an industry as inefficient, the burden is on that official to furnish the proof. Secretary Redfield either has the proof in the form of exact figures of foreign and American costs and efficiency, or he has it not. If he has the proof, why does he not produce it instead of asking us to obtain the evidence? If he has it not, then where is the foundation for the public charge of inefficiency that he made in October, 1914?

(d) It is immaterial who asked for information as to foreign markets for wool goods. Not only the November editorial, but the August comment made it plain that our criticism was directed against the use to which the reports on foreign wool goods were put by the Department of Commerce. The reports themselves showed that the selling of American wool goods in foreign markets in any considerable quantity in ordinary times was hopeless; nevertheless the Department of Commerce between June 25 and September 10 sent the exhibit to a number of cities, including Boston and Chicago, and the impression was created that the Department was vigorously promoting the sale of wool goods abroad. Replying to Secretary Redfield's question: Except to give a copy to the corporation which had asked for information, we would have consigned the reports and accompanying samples to oblivion, or used them to demonstrate the fact that under normal conditions in time of peace a foreign market for American wool goods is almost wholly a myth.

(e) The information supplied to us by American consuls through the Department of Commerce and directly, has been highly appreciated, and much of it we have published, but this has no bearing on our criticism of Secretary Redfield's display of the foreign wool goods exhibit.

(f) The paragraph which Secretary Redfield does not recognize is from the report of his speech in Cypress Hall, Cambridge, Mass., on Oct. 21, 1914. It appears in the Boston Herald of the next day.

(g) We commented in detail on these letters in our March, 1914, issue.

(h) We hope that Mr. Vose's opinion, the resolution of the National Association of Cotton Manufacturers, as well as the other resolutions, which Secretary Redfield has forwarded, but which at this writing have not arrived, may everywhere receive the consideration they deserve. In the very nature of things, however, our opinions regarding the matters now under discussion must take form, not from the opinions of others, but from the evidence we have ourselves obtained.

(i) The words "do as much work" referred plainly to the amount added to the value of material by manufacture. The latter was the basis of the Department's statistics, as clearly stated in our November article.

(j) The president of the Japanese company was presumably a man. Secretary Redfield's offer to prove his statements is superfluous. We have never for an instant questioned the personal good faith of Congressman or Secretary Redfield in connection with his speech of June 12, 1912, or any other statement he has ever made. We recounted the variegated incidents he related on June 12, 1912, in order to expose the fallacy of his reasoning by contrasting the trivial and disconnected character of his evidence with the wholly unwarranted conclusion.

(k) The statement regarding Ceylon could not be original with us, because we have never visited that island. Our condensed statement was based on the extract that Secretary Redfield quotes, and which he does not dispute.

(l) We have now covered the various points raised by Secretary Redfield and believe that the accuracy and fairness of our November criticism has not been impeached by his letter. We shall always be glad to discuss with him any question on which we think we possess useful information, and trust such exchange of views will con-

tribute to increased efficiency, not only in industry, but in government, the cost of which is one of the most important issues at the present time — Editor.

STATE SUPPORT FOR DYESTUFFS

London Times

The Board of Trade has had under consideration the question of the supply of dyestuffs and colors, the deficiency of which at the present time, owing to the cessation of supplies from Germany, is causing great apprehension in the textile trades and in other important British industries.

After consultation with the Committee on Chemical Manufactures, appointed in August last under the chairmanship of the Lord Chancellor, it appeared to the Board advisable to take such steps as were possible to develop the immediately available sources of supply, and also to encourage the permanent manufacture of dyestuffs and colors in the United Kingdom on a large scale, so as to guard against any recurrence of the present difficulty.

As regards interim steps, arrangements have been made to encourage the immediate expansion of the various existing sources of supply.

As regards the permanent supply, after preliminary consultations with representatives of some of the principal bodies of consumers, a meeting was held at the offices of the Board of Trade on Tuesday, November 10, which was attended by representatives of 22 important asociations and firms engaged in the color-using industries. There was laid before the meeting a scheme for the formation of a limited company with a large capital of which the bulk would be subscribed by the consumers of dyestuffs and colors and others interested, the Government indicating their willingness conditionally on this being done to subscribe a certain proportion of the share capital and to guarantee the interest on a large debenture issue for a term of years.

Precautions would be taken to preserve the British control of the enterprise and to prevent undue encroachment on other branches of the chemical trades.

The meeting was informed that preliminary arrangements had been made enabling the Government to acquire important dye-producing works in this country for the purposes of the new company if established, and that the Government would be prepared to take all necessary steps to secure the acquisition of any other concerns in the United Kingdom whose transfer to the new company might be desirable.

The meeting unanimously adopted a resolution approving in principle of a national effort being made by the trade to increase the British supply of synthetic colors and welcoming the assistance of the Government for that purpose. A small committee representing the trades concerned was appointed to confer with the Board of Trade with a view to the elaboration of a scheme on the lines discussed at the meeting.

A further announcement as to the proposed company will be made at an early date.

WOOLEN GOODS FOR CHINA

By JULEAN H. ARNOLD, American Consul at Hankow

So far as this consular district is concerned, which embraces a population of about 100,000,000, there are fewer Chinese wearers of foreign clothing to-day than there were three years ago. Immediately following the revolution the demand for foreign made clothing was unprecedented in this country. Shops carrying foreign clothing, foreign woolen goods, etc., sold out their entire stocks. Everything in this direction was bought up. The foreign sewing machines agencies sold enormous quantities of sewing machines to meet the demands on the part of the Chinese tailors busy with filling orders for foreign style clothing.

The rebellion which followed the revolution had the opposite effect. A decided reaction set in and today we find but five hundred Chinese in Hankow in foreign clothes as compared with nearly ten times this number immediately after the revolution. So there is no big demand for foreign woolens.

For all China the exports of silk products in 1913 amounted to $76,453,739, an increase of $7,054,227 over 1912.

The Textile World Record's Report of Mill Construction for 1914

The record of new mill construction in the United States for 1914 shows 245 new mills, as compared with the annual average of 260 new mills for the nine preceding years. In view of general business conditions during the year, the record is surprisingly good.

COMPARISON OF NEW MILL CONSTRUCTION FOR LAST TEN YEARS.

	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905
Cotton	26	27	37	32	67	80	47	64	74	33
Wool	21	24	24	20	31	47	28	25	56	38
Knitting	110	142	122	98	113	105	94	83	103	79
Silk	51	54	46	38	34	37	33	51	36	53
Miscellaneous	37	30	36	26	29	20	25	39	34	42
	245	277	265	208	274	289	222	262	303	245

The cotton, wool and silk branches of the industry show but slight decreases in the number of new establishments as compared with 1913. The knitting industry reports 110 new mills as compared with 142 in the previous year, while miscellaneous mills have increased from 30 in 1913 to 37 in 1914.

In 1913 seventy-five per cent. of the new spindles in cotton mills were reported from the Southern States and only 25 per cent. in the North, whereas in 1914 the Northern section of the country claims 44 per cent. of the new cotton spindles. North Carolina leads all other States in number of new mills, viz., seven, equipped with 93,700 spindles and 1,700 looms. The new Naumkeag Mill at Salem, Mass., is the largest under construction during the year, with 100,000 spindles and 3,000 looms.

Of the 21 new woolen and worsted mills, 9 are claimed by Pennsylvania, the others being located in 8 other States, of which Massachusetts and Rhode Island each have three.

land Worsted Mills Company and the American Woolen Co. have made important additions to their plants.

The new knitting mills show a decided

NEW COTTON MILLS.

New England States	No.	Spindles	Looms
Connecticut	1	....	....
Massachusetts	4	109,000	3,245
Rhode Island	1	....	24
	— 6	— 109,000	— 3,269
Southern States			
Alabama	1	5,472	....
Georgia	1	25,000	500
Kentucky	2	2,000	....
North Carolina	7	93,700	1,732
South Carolina	1	....	20
Tennessee	1	10,000	....
	— 13	— 136,172	— 2,252
Middle States			
Maryland	1	....	30
New Jersey	2	....	74
Pennsylvania	2	....	....
	— 5	—	— 104
Western States			
Indiana	1	....	....
Missouri	1	....	....
	— 2	—	—
	26	145,472	5,625

tendency toward concentration, 70 per cent. of the total being located in the Middle States and 44 per cent. of the total in Penn-

NEW WOOLEN AND WORSTED MILLS.

New England	No.	1914	1913	1912	1911	1910	1909	1908	1907
Connecticut	1								
Massachusetts	3								
Rhode Island	3								
	— 7								
Middle States									
New York	1								
Pennsylvania	9								
	— 10								
Western States									
Illinois	1								
Indiana	1								
Washington	1								
	— 3								
Southern States									
Kentucky	1								
	— 1								
		21	24	23	17	31	47	23	25

sylvania. New knitting mills in the South have decreased from 24 in 1913 to 18 in 1914

COMPARISON OF SPINDLES IN NEW COTTON MILLS FOR THE LAST ELEVEN YEARS.

	1914	1913	1912	1911	1910	1909	1908	1907	1906	1905	1904
New England	109,000	75,000	94,400	170,500	468,714	599,000	115,000	113,000	171,000	106,800	161,184
Southern States	136,172	250,760	437,000	172,000	214,028	527,528	91,193	294,745	294,956	97,290	55,472
Middle and Western	.....	7,000	1,700	4,920	12,500	79,968	3,500	10,250	27,040	.....	.....
Totals	245,172	332,760	533,100	347,420	695,242	1,206,496	209,693	417,995	492,996	198,720	216,656

Eleven of the 21 are worsted weaving and spinning mills, 7 are woolen yarn or cloth mills and 3 are carpet mills. It is noteworthy that the larger organizations like the Cleve-

while the Western States show a shrinkage from 25 last year to 9 this year. Thirty-two of the new knitting mills manufacture sweaters and other outer garments, showing the

continued popularity of knitted products for this purpose.

Concentration is still the rule in the silk industry, as shown by the fact that of the 51

NEW KNITTING MILLS.

New England	No.	1914	1913	1912	1911	1910	1909	1908	1907
Maine	3								
Massachusetts	1								
New Hampshire	1								
Rhode Island	2								
	—	7							
Middle States									
Delaware	1								
Maryland	2								
New Jersey	8								
New York	17								
Pennsylvania	48								
	—	76							
Western States									
California	1								
Illinois	1								
Minnesota	1								
Nebraska	1								
Ohio	1								
Wisconsin	4								
	—	9							
Southern States									
Kentucky	1								
Louisiana	1								
North Carolina	12								
Tennessee	3								
West Virginia	1								
	—	18							
		110	142	112	113	104	92	83	103

new mills in 1914, forty are found in New Jersey and Pennsylvania. This corresponds with the concentration in 1914 when 41 of

NEW SILK MILLS.

Maryland	No.	1914	1913	1912	1911	1910	1909	1908
Ribbon	1							
	—	1						
Massachusetts								
Ribbon	1							
Broad Silks	1							
	—	2						
New Hampshire								
Ribbon	2							
	—	2						
New Jersey								
Broad Silks	13							
Silk Throwing	2							
Ribbon	3							
Embroideries	1							
	—	19						
New York								
Throwing	1							
Broad Silk	2							
Ribbon	1							
	—	4						
Pennsylvania								
Silk Yarns	4							
Ribbon	4							
Silk Throwing	5							
Broad Silks	8							
	—	21						
Rhode Island								
Broad Silks	1							
Silk Yarns	1							
	—	2						
Total		51	54	47	38	34	37	32

the 54 new mills were located in the same States.

A feature that calls for special notice is the considerable number of idle mills that have been reorganized and started up. The detailed report of new mills, enlargements and improvements follows. It is an interesting record and in the aggregate shows a large amount of new construction and confidence for the future.

LICENSES TO EXPORT BRITISH WOOL AND WOOL GOODS

The British Board of Trade has issued the following regulations for licenses to export British wool and wool goods:

Raw Wool, Shoddy, Woolen, and Worsted Yarn.—Licenses will in general be considered only when the goods are destined for British territory or allied countries. On production of convincing evidence (such as a certificate from the Bradford Conditioning House) that the wool is quite unsuitable for Army purposes licences for export to other destinations may be considered.

Cloth.—The exportation of khaki woolen cloth is absolutely prohibited (except for the military purposes of the Dominions).

Women's dress stuffs and fancy cloths may go freely.

Other woolen and worsted cloth will not be allowed to be exported if there is any possibility of using it for uniform purposes, and a Government Committee is going through the applications with representatives of the Bradford, Leeds, and Huddersfield Chambers of Commerce and of the Army Clothing Factory with a view to deciding on expert advice which cloths may go.

Gloves, Socks, Jerseys, and Underwear.—If these are at all likely to be useful for Army purposes applications for licences will only be considered for export to British territory and allied countries, and then only if supported by the Colonial Office or Foreign Office, as the case may be, or if there is good ground for the belief that the goods are destined for our own troops.

It should be remembered that at the present time goods may be held to be possibly suitable for Army purposes, which would have been rejected for various reasons in time of peace, and licences in respect of such goods may accordingly be refused. It should also be noted that in view of the very great demand for military purposes of our own and allied Governments it is the duty of all manufacturers to ascertain what is required for military purposes and to devote all possible attention to obtaining and executing Government orders.

Where licences are granted they are now being issued through the Privy Council Office on the recommendation of the Trading with the Enemy Committee as rapidly as the circumstances will admit. It will be understood that the Committee must be largely guided by the War Office.

New Mill Construction for 1914

(A summary will be found in the Monthly Comment of this issue)

NEW COTTON MILLS.

	Spindles	Looms
ALABAMA.		
Alexander City. Bettie Francis Cotton Mills $100,000; Benjamin Russell, pres. and buyer; T. C. Russell, treas.; 24/1 Underwear Yarns.	5,472	..
CONNECTICUT.		
Central Village. Central Cotton Yarn Co.; Geo. S. Colton; Mop Yarns, Wicking, etc.	..	..
GEORGIA.		
La Grange. Hillside Cotton Mills; Fuller E. Callaway, interested; $500,000. Plans being drawn for new cotton cloth mill.	25,000	500
INDIANA.		
New Albany. Mills City Cotton Mills; $50,000;Henry T. Bain, pres,; J. E. Wiley, Sr., treas. and mgr.; Cotton Rugs, Toweling, Mop Cloths, etc.; electric.	..	..
KENTUCKY.		
Covington. Pearce, R. T., Co.; 12-16 E. Pike St.; $5,000; R. T. Pearce, pres.; Narrow Woven Cotton Fabrics; electric; sell direct.	..	..
Louisville. Kentucky Cotton Yarn Co.; Floyd and A Sts.; $100,000; W. C. Nones pres.; S. M. Nones, treas.; Ira F. Phillips, manager and buyer; Coarse Cotton Yarns, 6s and under, Mop Yarns; steam; sell direct. (Begin mfg. Jan. 1, 1915.)	2,000	..
MARYLAND.		
Elkton. Deibert Mfg. Co.; $60,000; W. S. Deibert, pres., mgr. and buyer; Elmore Deibert, treas.; Curtains, Tapestry Goods and Couch Covers. (Formerly W. S. Deibert Co., at Elk Mills. New mill built at Elkton.)	..	30
MASSACHUSETTS.		
Millbury. Cordis Mill; increased capital to $300,000; built new mill, 82 by 290 feet; doubled equipment and added electric power.	9,000	245
New Bedford. Jones, William C., Co.; Nash Road; $100,000; W. H. Dixon, pres.; P. A. Greene (Boston), treas. and buyer; Cotton Waste; electric. (Boston office, 200 Summer St.)	..	..
Salem. Naumkeag Steam Cotton Co.; $1,500,000; John F. Brooks, pres.; Nathaniel G. Simonds, treas.; Wm. P. McMullan, agt. and buyer; Sheetings and Sateens; dye; electric; Parker, Wilder & Co., Boston, s. agts. (Built new weave shed, and rebuilding spinning mill, 722 by 135 ft., 4 stories high, of reinforced concrete, fireproof construction.)	100,000	3,000
Worcester. Worcester Tire Fabric Co.; Union St.; $50,000; Arthur D. Sykes, pres. and treas.; Peter Reilly, supt.; Tire Fabrics; sell direct.	..	..
MISSOURI.		
Kansas City. Burdett Mfg. Co.; $100,000 (authorized); C. S. Van Noy, pres. and buyer; I. C. Van Noy, treas.; F. E. McCraith, supt.; Cotton Yarns, 4 ply to 16 ply, and mops. (Building mill.)	..	..
NEW JERSEY.		
Cedarville. Bell Cotton Fabric Co.; $50,000; Robt. E. Bell, pres., supt. and buyer; Turkish Towels and Terry Cloth; 4 sewing machines; water and electric; F. Tausend Com. Co., N. Y., s. agts.	..	24
Passaic. Tuxedo Mills, Inc.; Central Ave. and Summer St.; $50,000; H. L. Patteson, pres., treas. and buyer; S. B. Sargent, vice-pres.; Fancy Worsteds and Vestings; steam; sell direct.		50
NORTH CAROLINA.		
Belmont. National Yarn Mills; $200,000; A. C. Lineberger, pres.; R. L.. Stowe, treas.; Combed Peeler Yarns; electric. (Building new mill, 340 by 128 feet.)	10,000	..
Charlotte. Robinson Mfg. Co.; $100,000; 14s to 20s; Coarse Hosiery Yarns; sell direct; taken over mill of Charlotte Cordage Co. (W. L. & W. E. G. Robinson and W. A. Watson interested.)	3,500	..
Greensboro. Revolution Cotton Mills; Cotton Flannels; building 2-story mill, 500 by 130 feet, for carding and spinning; 1-story mill, 447 by 130 feet, for weaving; 3-story mill, 303 by 130 feet, for bleaching, dyeing, finishing and shipping; power house to develop 3,000 h. p. and storage buildings.	40,000	1,132
Greenville. Greenville Cotton Mills, Inc.; $100,000; J. G. Moye, pres.; E. B. Higgs, treas.; W. H. Norris, mgr. and buyer; 10s to 16s Hosiery Yarns; steam.	5,200	..
Landis. Corriher Mills; C. J. Deal, pres.; L. A. Corriher, treas.; G. O. Lipe, supt.; Hosiery Yarns; electric; equipped mill built two or three years ago with 4,000 spindles.	4,000	..
Marion. Clinchfield Mfg. Co.; $800,000; D. D. Little, pres. and treas.; Hugh F. Little, agt. and buyer; Wide Print Cloth and Convertible Cotton Fabrics; steam; Baldwin & Leslie, N. Y., s. agts. (Begin mfg. about March 1, 1915.)	26,000	600
Valdese. Valdese Mfg. Co.; $125,000; A. M. Kistler, pres.; F. Garrou, treas. and buyer; S. V. Upchurch, supt.; Hosiery Yarns on Cones, 10s to 22s; electric; sell direct.	5,000	..
PENNSYLVANIA.		
Philadelphia. Reinfel Mfg. Co.; $25,000; H. J. Schwehm, pres.; E. S. Schwehm, treas.; Gustav Goldman, sec. and mgr.; Felt Products for Clothing Trade.	..	..
Philadelphia. Samet-Bristow Textile Co.; E St., below Indiana Ave.; Terry Wash Cloths; electric; sell direct.	..	..
RHODE ISLAND.		
Pawtucket. La Tulia Lace Co.; Tweed St.; $200,000; Laces; dye and bleach; electric.	..	24
SOUTH CAROLINA.		
Landrum. Shamrock Damask Mills; $20,000; J. R. Mallory, treas. and buyer; H. L. Spears, supt.; Table Damask; Converse, Stanton & Co., N. Y., s. agt.	..	20
TENNESSEE.		
Knoxville. Appalachian Mills. Established own cotton yarn mill for making 8s to 12s carded knitting yarns; electric.	10,000	..
CANADA.		
Ontario, Galt. Galt Hair Works; J. E. Ward, prop.; 136 Chalmers St.; Handling Hair for Brush Makers and Weavers. (Will increase.)	..	10
Quebec, Sherbrooke. Canadian Connecticut Cotton Mills, Ltd.; $2,225,000; H. L. Burrage, pres.; R. J. Caldwell (N. Y.), vice-pres.; Tracy S. Lewis (Beacon Falls, Conn.), vice-pres., treas. and buyer; Obadiah Butler, sec. and mgr.; Fine Sea Island and Egyptian Tire Fabrics; Dryer Felts and Specialties; electric; R. J. Caldwell Co., N. Y., s. agts.	..	..

NEW WOOLEN MILLS.

No. Sets Cards | No. Looms

CONNECTICUT.

Norwalk. Mianus Mfg. Co.; Belden Ave. and River St.; Thos. I. Raymond, pres.; Fred A. Springer, treas., agt., supt. and buyer; Imitation Fur Goods and Plushes; steam, water and electric; Beaumont & Bloom, N. Y., s. agts. (Finishing done at main plant at Coscob.) 6 20

ILLINOIS.

Chicago. Penn Novelty Works; (office 2951 W. Lake St.); $20,000; E. Higgins, pres.; C. Turner, vice-pres., treas. and supt.; Woolen Art Rugs; 1,600 spindles; finish; electric; sell direct. 4 12

INDIANA.

Columbia City. Columbia Woolen Mills; $95,000; Wm. Fisher, pres.; J. D. Adams, treas.; Fancy Cassimeres; dye; steam; sell direct. 4 24

KENTUCKY.

Louisville. Sterling Spinning Co.; 1361 So. 15th St.; $25,000; Geo. Dunham, pres., mgr. and buyer; M. W. Brock, treas.; Woolen and Merino Knitting Yarns; 1,224 spindles; dye; (raw stock and yarn); electric; sell direct and Caron Co., Medinah Bldg., Chicago, s. agts. ..... 2 ..

MASSACHUSETTS.

Holyoke. Holyoke Worsted Mills; H. J. Beebe, Jr., prop.; 52 Main St.; Worsted for Men's and Women's Wear; water and electric; sell direct. 42

Lowell. Wamesit Worsted Co.; Howe St.; $6,000; C. Brooks Stevens, pres.; Chester F. Rich, treas.; Commission Worsted Spinning (Bradford System); 3,600 spindles; steam and water... ..

Methuen. International Wstd. Mills; Frank G. Murch, prop. and buyer; Fancy Worsteds; electric; B. Priestley & Co., N. Y., s. agts. 26

NEW YORK.

Watertown. Woolen Products Co.; Newell St.; $30,000; Max Stabinsky, pres.; Jacob Baker, treas. Reported will manufacture Blankets. ....

PENNSYLVANIA.

Philadelphia. Arlington Rug Mills; Wm. M. Fowler & Co.; Josephine and Kinsey Sts.; Frankford; Ingrain Art Squares, Scotch Rugs, Wool and Fiber Rugs; sell direct. 10

Philadelphia. Bernice Mfg. Co.; Dyson & Goodman, props.; Somerset and Boudinot Sts.; Wm. H. Dyson, supt.; Men's Wear, Cottons and Worsteds; steam; sell direct; buy 2/20 cotton warps, 2/40 and 1/16 worsteds. 10

Philadelphia. Dyson Bros.; Jasper and Orleans Sts.; Worsted Goods on Commission. 10

Philadelphia. Lord, Frederick Co.; Leverington Ave. and High St.; Fred'k Lord, supt. and buyer; Carpet and Waste Yarns, Carpet Ravellings and Railroad Waste; 450 mule spindles; steam; sell direct. ..... 4 ..

Philadelphia. Manayunk Yarn Co.; Main St. and Walnut Lane; $20,000; John Harmer, pres.; John Foyle, treas.; Elmer Street, supt.; Woolen Yarns. ..... 6 ..

Philadelphia. Porter Bros. Textile Co.; H. T. and I. T. Porter, and Clarence R. Godfrey; Margaret and Ditman Sts.; John P. Leary, supt.; Men's Wear Worsteds and Dress Goods... 10

Philadelphia. Quaker Mills; 2034 E. Arizona St.; Carpets and Rugs; Branch of Quaker Mills at Waterloo and York Sts. 20

Philadelphia. Sydney Worsted Co.; Howard and Palmer Sts.; James Sutcliffe, mgr. and buyer; Woolen and Worsted Dress Goods; sell through New York. ....

Philadelphia. Whitehall Textile Co.; Margaret and Ditman Sts.; Frankford; Cotton and Worsted Dress Goods. 30

RHODE ISLAND.

Warren. Warren Worsted Co.; Wm. Broadhead, mgr.; Worsted Goods. 60

Woonsocket. Bachman, Louis and C. A. Root; purchased Glenark Knitting Mill; installing worsted spinning plant; one floor leased to Manchester Company, commission weavers..... ..

Woonsocket. Barnai Worsted Co.; So. Main St.; $100,000; Wm. J. Barnett, pres.; Wm. Naismith, treas.; Men's Wear Worsteds; steam; buy 2/20s to 2/50s worsted yarns. 26

WASHINGTON.

Spokane. Spokane Woolen Mills; $30,000; Sumner Newell, pres. and treas.; B. A. Churchill, supt.; Mackinaws, Flannels and Blankets; 640 spindles; steam and electric; Sumner Newell, buyer. 2 12

CANADA.

Ontario, Arnprior. Arnprior Felt Co., Ltd.; J. T. Griffith, mgr.; Felts for Paper and Pulp Mills; electric. ..... 3 ..

Ontario, Cobourg. Cobourg Felt Co., Ltd.; $200,000; G. W. Charles, buyer; Felt and Felt Boots and Shoes; dye (piece and raw stock); steam and electric. ....

Ontario, Dundas. Mercury Mills, Ltd.; Carded Woolen Yarn; electric. (Branch of Hamilton, Ont.) ..... 2 ..

NEW KNITTING MILLS.

No. Ktg. Machines

CALIFORNIA.

Los Angeles. Guenther, The M. Knitting Co.; 3502-06 So. Park Ave.; M. Guenther, pres. and buyer; Jerseys, Bathing Suits and Sweater Coats; 6 sewing machines; electric; sell direct. 12

DELAWARE.

Wilmington. Comet Mfg. Co.; 102 E. Fourth St.; Men's Cotton Knit Underwear. ....

ILLINOIS.

Chicago. Arcanum Knitting Works, Inc.; 116 So. Dearborn St.; $10,000; Louis D. Bloch, pres. and buyer; Joseph Tauman, treas.; Jacob S. Tauman, supt.; Men's, Women's and Children's Sweater Coats and Fancy Knit Goods; sell direct. 7

KENTUCKY.

Paducah. Paducah Hosiery Mills; $12,000; R. E. Hearne, pres.; H. M. Childress, treas.; E. O. Davis, mgr.; Misses' Ribbed Hosiery; electric; sell goods in grey. 50

LOUISIANA.

New Orleans. O. K. Knitting Mills, Inc.; Chartres and Bienville Sts.; $25,000; N. Orsher, pres.; S. Kronengold, sec. and treas.; A. Radlauer, mgr.; Sweater Coats; 12 sewing machines; electric; sell direct; N. Orsher, buyer. 11

MAINE.

Lewiston. Beliveau & Jutras; 416 Lisbon St.; P. C. Jutras; Emeril Beliveau; Men's, Women's and Children's Worsted Hosiery; 2 sewing machines; electric. 10

Lewiston. Laurendeau Bros.; 282 Lisbon St.; Wool Stockings; use 4/13, 4/14, 3/14 and 3/16 yarns; 2 sewing machines; sell direct. 6

Norway. Hunton, T. C.; Marston St.; Women's and Children's Hosiery; 4 sewing machines, 2 winders; buy 10s and 24s carded, and 36s combed Peeler yarns; T. C. Hunton, buyer. (Formerly Brunswick (Me.) Knitting Mill.) 24

MARYLAND.

Elkton. Sutro, E. & Son Co.; Hosiery. (Branch of Philadelphia.) ....

Hagerstown. Antietam Ktg. Co.; built new 3-story mill, 50 by 120 feet, to replace burned plant; capacity increased 30 per cent. ....

MASSACHUSETTS.

Cambridge. Hingham Knitting Co.; Charles River Parkway and Sands St.; $25,000; Frederick E. Newell, pres.; John E. Woodside, treas. and buyer; William Coppin, supt.; Men's Merc. Cot-

ton Half Hose; electric dye; sell to retailers. (Built new mill and removed from So. Hingham where old plant has been discontinued.) 60

MINNESOTA.

St. Paul. National Knitting Co.; 531 Rice St.; Meyer Kuller, supt.; Woolen and Worsted Sweater Coats; sell direct; buy 2/20 wool, 2/20 and 3/20 worsted. .....

NEBRASKA.

Deshler. Desnler Knitting Mills; Men's, Women's and Children's Hosiery and Knit Goods. (Begin mfg. Jan. 1, 1915.) .....

NEW HAMPSHIRE.

Nashua. Caron, A., Knitting Works; 15 Gilman St.; Woolen Mittens, Gloves, Stockings, Sweaters. .....

NEW JERSEY.

Belvidere. Allen, John E.; Ladies' and Misses' Ribbed Hosiery; sell direct. 12

Bridgeton. Merit Hosiery Mill; 9 Broad St.; $50,000; Mr. Miller, pres.; J. V. Trechard, sec.; E. Bacon, treas.; Wm. H. Leeds, agt.; Geo. T. Nuttall, supt. and buyer; Ladies' Hosiery, 220-needle; 2 sewing machines; steam; sell direct. 60

Bridgeton. Sutro, E. & Son Co.; Knitting and Finishing Hosiery. (Branch of Philadelphia.) .....

Elizabeth. Union County Knitting Mills; 9 First St.; Sweater Coats and Knit Goods. 4

Jersey City. Apolda, L. & L. Knitting Mills; Neptune Ave.; G. R. Schnitzler, supt.; Ladies', Misses' and Juvenile's Sweaters and Novelties; 3 loopers; 5 sewing machines; electric; sell direct. 6

Passaic. Guenther, Paul, Inc.; Men's and Women's Fashioned Silk Hosiery. (Building 4-story brick mill. Branch of Dover.) .....

Paterson. Ward Silk Jersey Co.; $5,000; Peter A. Ward, pres., mgr. and buyer; Silk Jersey Cloth, Nets, Veilings and Similar Goods; electric. 6

Rahway. Millbury Atlantic Mfg. Co.; $65,000; L. A. Millbury, pres., treas. and buyer; Bathing, Sportsman's and Waterproof Clothing; added knitting dept.; 10 sewing machines; steam and gas; sell direct; N. Y. office, 543 Broadway. 5

NEW YORK.

Brooklyn. Binkowitz, J.; 443 Glenmore Ave.; Sweater Coats and Bathing Suits; 6 sewing machines; electric. 13

Brooklyn. Cedar Hosiery Mfg. Co.; 352 Livingston St.; S. Cotait, prop.; men's Cotton Hosiery; steam; sell direct. 6

Brooklyn. Forest Ktg. Mills; 50-54 Summerfield St.; Sweaters for Men, Boys and Children; 15 sewing machines; electric; sell direct; H. D. Buck, buyer. 10

Brooklyn. Golden Star Knitting Mill; Max Hoenig, prop.; 45 Johnson Ave.; Sweater Coats and Bathing Suits; 7 sewing machines. 10

Brooklyn. Lawrence Mfg. Co.; 10 Leo Pl. (Office 17 E. 16th St., N. Y.). Tricot Cloth. .....

Brooklyn. Oco Silk Mfg. Co.; 104 So. 4th St.; C. A. Cutter, pres. and treas.; Paul Obsterbrink, sec.; Silk Jersey Cloth; electric. 24

Brooklyn. Oriental Textiles, Inc.; 2764 Atlantic Ave.; $5,000; M. S. Liebrecht, pres.; H. Liebrecht, vice-pres.; J. S. Dubroff, sec. and treas.; L. O'Lena, supt.; Wash Cloths. (Will add the manufacture of full line of sweaters and bathing suits.) .....

Brooklyn. W. & W. Knitting Mills; 108 Amboy St.; Sweater Coats for Women and Children; 5 sewing machines; sell direct; N. Wesband, buyer; buy wool, worsted and zephyr. 4

Cohoes. Random Ktg. Co., Inc.; Ontario and Olmstead Sts.; W. G. McCann, treas. and buyer; Knit Towels and Wash Cloths; 4 sewing machines. 7

Corona. Corona Knitting Mills; J. Kuehnel & Sons, props.; Sweater Coats. 9

Fonda. Fonda Silk Fabric Co.; W. J. Weeper and John H. Rathman; Silk Jersey Cloth; 1 80-spindle winder; 1 warping machine; 2 120 in. weaving machines; electric. (Will add dyeing and finishing department.) .....

Fultonville. Weeper Mfg. Co.; Gordon S. Weeper; $30,000; Glove Fabrics. 3

New York City. Beach Bathing Suit Co.; 34 W. 33d St.; Bathing and Gymnasium Suits. .....

New York City. Invader Textile Corp.; 2157 Prospect Ave.; E. Boyd, pres.; Max Nydegger, treas.; Full Fashioned Silk Hosiery; electric; sell direct; Mr. Boyd, buyer yarns; Mr. Nydegger, buyer supplies and machinery. 15

New York City. Peerless Mfg. Co.; Leo Rogovin, prop.; 2315 Crotona Ave.; Hockey Caps and Fancy Knit Goods; buy worsted yarns. .....

New York City. Philmar Knitting Co.; Inc.; 35 6th Ave.; Knit Goods. .....

Sidney. Jersey Silk Mfg. Co., Inc.; $25,000; Wm. J. Wuerdeman interested.

NORTH CAROLINA.

Beaufort. Orion Knitting Mills; Dr. H. Tull, pres.; J. F. Taylor, treas. and supt.; Misses' Hosiery. .. 40

Charlotte. Defiance Sock Mills; 1400 South Boulevard; Men's Half Hose; Morehead Jones and K. S. Tanner, buyers; buy 12s black cotton and 24s Mock Egyptian Yarns. 20

East Durham. Louise Knitting Mills Co.; $50,000; W. T. Cole, pres.; E. C. Stone, treas., supt. and buyer; Rib Top Ladies' Hosiery and Half Hose; 10 sewing machines; electric; sell in grey. 60

Efland. Efland Hosiery Co.; M. T. Efland, pres.; John L. Efland, treas.; Cotton Seamless Hosiery; steam; sell in the grey. 30

Elizabeth City. Avalon Mill; Elizabeth City Hos. Co.; D. B. Bradford, pres.; P. H. Williams, sec., treas. and buyer; G. F. Seyffert, supt.; Misses' Hosiery; electric. 160

Elizabeth City. Pasquotank Hosiery Co.; $50,000; Noah Burfoot, pres.; F. V. Scott, vice-pres.; Dennis Van Horn, mgr.; Hosiery; capacity 300 dozens daily. .....

Halifax. Halifax Hosiery Mills; (owned by Scotland Neck (N. C.), Cotton Mills); Ribbed Hosiery. (Office at Scotland Neck Cotton Mills, Scotland Neck, N. C.) 40

Hickory. Best Knitting Mills; C. S. Grove, prop.; Half Hose and Misses' Hosiery; sell direct. (Building new mill, October, 1914.) 51

Morganton. Vaudois Knitting Mills, Inc.; $25,000; B. F. Davis, pres.; John Long, sec. and treas.; F. J. Lacey, supt.; Ladies' and Men's Hosiery; 11 sewing machines; steam; sell direct. 100

Old Fort. Century Knitting Mills, Inc.; $28,000; F. A. Lukin, pres.; C. F. James, vice-pres. and mgr.; F. M. Bradley, treas.; Seamless Cotton Hosiery; dye and finish; steam and electric; sell direct and through F. A. Williams, 377 Broadway, N. Y.; buy 14, 16, 18, 40, 60 carded and combed. 100

Troy. Troy Knitting Mills Co.; $35,000; J. C. Hurley, pres.; Barna Allen, treas. and buyer; Misses' and Children's Ribbed Hosiery; dye and finish; steam and electric. .....

Wilmington. Kuck's Hosiery Mills; John H. Kuck, prop.; Men's and Women's Hosiery; sell direct. .. 50

OHIO.

Plain City. J. C. Tauber; establishing plant to make Angora Fabric; 2 sets cards; 3 knitting machines. 6

PENNSYLVANIA.

Philadelphia. Beaver Knitting Co., Inc.; E. Neff and E. Thompson Sts.; Sweater Coats, etc.; steam; sell direct. .....

Philadelphia. Commonwealth Knitting Co.; Mascher and Jefferson Sts.; $25,000; Chas. S. Chestnut, pres.; Samuel J. Livingston, treas.; Harry Sarfert, mgr.; Artificial Silk Plaited Hosiery for Men and Women; 230-needle; steam; finish; J. P. Quinlan, N. Y., s. agt.; buy art. silk 2/24 to 2/60 and 1/60 mercerized. 26

Philadelphia. Eagle Knitting Co.; Finkle & Shallcross; 214 W. Dauphin St.; Bathing Suits and Sweaters; 9 sewing machines; sell through New York. 4

Philadelphia. Eskimo Knitting Mills; Lena and Armat Sts.; Germantown; Sweater Coats and Fancy Knit Goods; 7 sewing machines. 7

Philadelphia. Keystone Knitting Mills; 826 Porter St.; Knitted Neckwear; sell direct; buy silk, art. silk and mercerized yarns. .....

Philadelphia. North Penn Knitting Mills; 2809 W. Fletcher St.; Geo. M. Brown, prop.; Seamless Hosiery; 200-220 needle; 2 sewing machines; electric; finish; G. A. Rumpf, 146 No. 12th St.; Phila., s. agt. 25

Philadelphia. Payne, C. W., Hosiery Co.; Hancock and Somerset Sts.; C. W. Payne, prop. and supt.; Ladies' Seamless Cotton Hosiery; steam; sell direct and Lawrence Neebe, N. Y., s. agt.; buy 20 to 30 cotton on cones. 27

Philadelphia. Philadelphia Hosiery Co.; Calvin M. Franklin, prop.; 1543 Ruan St., Frankford; Mercerized Half Hose; sell direct. 24

Philadelphia. Philadelphia Sweater Mills; A. Rubin

& Sons; 335 Market St.; A. Rubin, supt. and buyer; Men's and Women's Sweater Coats; 10 sewing machines; electric; sell direct. 6
Philadelphia. Pigeon Knitting Co.; 746 E. Westmoreland St.; Fine Seamless Hosiery, Ladies'; electric; sell direct; buy merc. yarns. ....
Philadelphia. Quaker Knitting Co.; 41 North 11th St.; Silk and Art. Silk Knitted Neckwear; 2 sewing machines; electric; sell direct. 10
Philadelphia. Rockledge Hosiery Mill; Heaton & Wilson, props.; 108 Drake Ave.; Fox Chase; Herbert Heaton, supt. and buyer; Ladies' Silk and Artificial Silk Plaited Hosiery; 220-needle; steam; finish; sell direct; buy silk, art. silk and mercerized yarns. 19
Philadelphia. Rubin, A. & Sons; 335 Market St.; A. Rubin, supt.; Sweater Coats for Men and Women; 10 sewing machines; electric; sell direct; buy woolen and worsted yarns. 6
Philadelphia. Saxony Knitting Mills; 2200 Arch St.; N. Neuman, supt.; Sweaters, Coats; 10 sewing machines. 20
Philadelphia, Germantown. Weston, James; 4960 Sheldon St.; Surgical Hosiery and Abdominal Supporters; hand power; sell direct. 4
Philadelphia. White Knitting Mills; 1132 No. 2d St.; Sweater Coats; 4 sewing machines; sell direct; buy woolen and worsted yarns. 3
Philadelphia. Zephyr Knitting Mills; L. Rubin; 418 Market St.; High Grade Infants' Sweater Coats; 10 sewing machines; electric; sell through A. J. Armstrong, N. Y.; buy zephyr and combination yarns. 8
Allentown. L. & S. Knitting Co.; 722 Linden St.; J. Fink Thompson, mgr.; Children's Knitted Union Suits; 12 sewing machines; sell through New York. 6
Allentown. Osenbach & Kramer; R. F. D. No. 1, Rittersville; E. Osenbach, supt.; Cotton Half Hose; 220-needle goods; electric; Hinchman, Vezin & Co., N. Y., s. agts.; buy 18 to 40 C. P. 14
Allentown. Patterson Knitting Co.; C. H. Patterson, prop.; 113 S. 7th St.; J. Fink Thompson, supt. and buyer; Children's Waists; 20 sewing machines; finish; electric; sell direct; buy 16s cotton. 5
Boyertown. Allen Knitting Mills Co; (No. 2 Mill); 4th and Jefferson Sts.; Ladies' Union Suits and Vests; buying done at Phila. (Branch of Phila.) ..
Carbondale. Faatz & Wenzel; Clyde M. Faatz and Mr. Wenzel, prop.; 43 Williams Ave.; Sweater Coats and Fancy Knit Goods; electric. 5
Coatesville. Coatesville Knitting Mills; $15,000; Alfred Goodfellow, pres.; John Q. Adams, vice-pres.; R. L. Batteiger, sec., treas. and buyer; C. M. Gerhard, supt.; Seamless Hosiery, 144-needle; Gallagher, Merryman & Co., N. Y., s. agts. 58
Cressona. Bast, J. F. & Son, Inc.; Finishing Dept. for Main Mill at Schuylkill Haven. ....
Cressona. Beck, Charles F.; Ladies' Union Suits. ..
Danville. Wenonah Hosiery Mills; Seamless Hosiery. 12
Five Pointville. Adamstown Hosiery Mill; (main office, Adamstown); David Webber, supt.; Half Hose. (Branch of Adamstown.) 71
Girardville. Girardville Knitting Mill; Second St.; W. B. Heine, supt.; C. H. Heine, buyer; Men's, Women's, Misses' and Boys' Underwear, using 24s yarns; 15 sewing machines; electric. 12
Hawley. Bigart & Kerl; H. S. Bigart & Geo. E. Kerl; Church St.; Knit Shawls and Scarfs; electric; sell direct. 2
Intercourse. Ephrata Hosiery Mills Co.; Cotton Seamless Hosiery. (Branch of Ephrata.) 40
Mohnton. Killian, M. C.; Wyomissing Ave.; Half Hose. (Building brick mill and will begin mfg. about Jan. 1, 1915.) ....
Nescopeck. Barger, Bains & Munn, Inc.; Boys' and Misses' Ribbed Goods; electric; buying done at Philadelphia. (Branch of Phila.) 70
Newcastle. Newcastle Knitting Mills; Mill and White Sts.; $100,000; Robt. A. McKinney, pres.; Wm. H. Grove, treas.; Sam'l M. McCracken, supt.; J. Howard Wood, buyer; Cotton Hosiery; electric; dye; John M. Given, Inc., s. agt. 100
Newmanstown. Newmanstown Hosiery Mills; (Edward D. Rubright, C. A. Bolich and Robt. Grimes); Men's Hosiery, 180-needle Goods; steam. 26
Pottsville. Stein & Schock; Women's Union Suits; 10 sewing machines. 6
Reading. Anchor Knitting Mills; 801 Locust St.; Seamless Cotton Half Hose; 200 needles; electric; sell direct. 5
Reading. Fisher Hosiery Co.; P. H. Fisher, prop.; rear 912 Penn St.; Harry E. Katzenmoyer, supt.; Ladies' Silk and Art. Silk Plaited and Plain Seamless Hosiery, 220-needle Goods; electric; sell through N. Y. 34
Reading. Huffert, W. H. & Son; $1,000; Men's Half Hose, 200-needle Goods; electric; sell direct; W. H. Huffert, buyer. 6
Reading. Johnson, Thos. M.; 216 1/2 Spruce St.; Ladies' Hosiery. (To begin mfg. about January, 1915.) ....
Reading. Laird, Louis F.; Carpenter and Cherry Sts.; Seamless Cotton and Mercerized Half Hose, 220-needle Goods; electric. 64
Reading. Miles, E. B.; 1613 Hawk St.; Seamless Cotton Half Hose; electric; sell product in gray... ..
Reading. Weinerth Knitting & Machine Co.; 316 McKnight St.; $10,000; Frank Kitzmiller, pres.; C. Clarence Long, treas.; Geo. S. Weinerth, mgr. and buyer; Ladies' Seamless Silk Hosiery, 220-needle; 2 sewing machines; electric; finish; J. P. Voorhees, N. Y., s. agt.; buy 60 to 80 mercerized and art. silk. 23
Rothsville. Conestoga Hosiery Co. (Branch of Brownstone.) Half Hose. 40
Sellersville. Munich, F. E.; Patented Garter Attachment Hosiery. (Branch of Phila.) ....
Shillington. Becker, D. B., Hosiery Mill; Men's Half Hose; electric; D. B. Becker, buyer; buy 10, 12 and 40 yarns. ....
Temple. Rosedale Knitting Co. (Rosedale); W. C. Bitting, pres., business mgr. and buyer; Wilhelm Doyn, treas.; Full Fashioned Men's Silk Half Hose; 2 twenty-section full fashion machines; 1 seamer; 1 looper. ....
Tower City. Bestok Underwear Co.; $50,000; S. D. Bausher, pres.; J. B. Lesher, treas. and buyer; Ladies' Union Suits; 15 sewing machines; electric. Office at Williamstown. 10
White Haven. White Haven Knitting Co.; Wm. Mengle, pres.; E. Moyer, treas.; J. Fink Thompson, mgr. and buyer; H. Peters, supt.; Children's Union Suits; 15 sewing machines; electric. ....

RHODE ISLAND.

Providence. New England Hosiery Co.; 285 Thurber Ave.; $10,000; Ralph B. Leinbach, pres., treas. and buyer; Ernest P. Cordin, Jr., supt.; Infants' Mercerized Hosiery; electric. 30
Thornton. National Silk Hosiery Co.; Plainfield St.; Wm. Newton, pres. and supt.; Wm. Burton, treas. and mgr. ....

TENNESSEE.

Bluff City. Bluff City Hosiery Mills; $20,000; R. W. Rush, pres.; W. B. Bachman, treas., mgr. and buyer; Hosiery; electric. 60
Chattanooga. Madeline Hosiery Mills; Ridgedale; Hosiery. (Branch of Davis Hosiery Mills.) 100
Englewood. Eureka Cotton Mills; M. E. Brient, pres. and buyer; J. L. Ferguson, treas.; R. S. Remer, supt.; Men's Union Suits; steam and electric. 50

WEST VIRGINIA.

Charleston. Kanawha Knitting Mill; 400 Kanawha St.; Sweaters; sell direct; buy 2/16, 2/18, 2/20 yarns. 10

WISCONSIN.

Milwaukee. Hercules Knitting Co.; 1097 Greenbush St.; $25,000; Hubert Kroetz, pres.; Hugo J. Kroetz, treas.; Men's, Women's and Children's Sweaters, Jackets and Fancy Knit Goods; 4 sewing machines; electric; sell direct. 6
Milwaukee. Milwaukee Knitting Co.; 173 Broadway; $10,000; J. B. Sattler, pres.; Harry M. Levy, treas. and buyer; Louis E. Trevett, supt.; Sweater Coats; 10 sewing machines; electric; sell direct; buy 2/5, 2/10, 3/15, 2/20 worsted, 2/20 woolen yarn. 10
Milwaukee. Pasch, S. Knitting Co.; 529 E. Water St.; Knit Goods; 3 sewing machines; electric; sell direct; S. Pasch and J. Feinstein, buyers; buy 2/20, 2/16, 3/18 worsted, and 2/10, 2/12, 2/14, 2/20 cotton yarns. 10
Wausau. Bonsa, H. C.; 712 Third St.; Sweaters, Underwear and Hosiery. (Moved from Plymouth, Wis.) 6

CANADA.

Manitoba, Winnipeg. Northland Knitting Co.; 618 Arlington St.; $100,000; T. J. Fernie, pres., treas. and buyer; Ben Shapiro, supt.; Men's, Women's, Children's Sweater Coats, Sweaters, Caps, etc.; 14 sewing machines; electric; sell direct. 26

Prince Edward Island, Tryon. Reid-Rayner Knitting Mills, Ltd.; $36,000; E. R. Reid, mgr.; Wool Underwear. ..
Ontario, Berlin. Macklin, F. E.; Men's Wool Socks;; electric. 5
Ontario, Brantford. Niagara Silk Mills, Ltd.; Double Tipped Silk Gloves, Underwear and Hosiery. (Branch of No. Tonawanda, N. Y.) ..
Ontario, Dundas. Parker, Alfred S.; Knit Lining and Tubing; 1 sewing machine; buy wool and cotton yarns. 3
Ontario, Dunnville. Marshall, William; Wool Socks. ..
Ontario, Elora. Elora Textile Co.; A. E. Carswell, pres.; T. A. Carswell, treas.; David F. Stewart, supt.; Astrachans and Novelty Knit Goods; 2 sewing machines; dye; steam, Wilson, Angus & Dewar, Toronto and Montreal, s. agts.; buy worsted and cotton yarns. 4
Ontario, St. Catharine's. St. Catharine's Silk Mills, Ltd.; Carleton St.; $100,000;.. H. C. Specht, pres.; H. L. Kromer, treas.; B. S. Griffin, mgr.; Women's Silk Underwear, Petticoats and Gloves; 3 weaving machines; dye; electric; R. L. Baker & Co., Toronto, s. agt. ..
Ontario, Toronto. Olympic Mfg. Co.; 64 Colborne St.; A. D. Campbell, mgr.; John Hogg, supt. and buyer; Sweaters, Sweater Coats, Children's Specialties, etc.; 3 sewing machines; electric; sell direct. 10
Ontario, Toronto. Tease, Samuel; 917 Lansdowne Ave.; Sweaters, Jerseys and Fancy Worsted Knit Goods. ..

NEW SILK MILLS.

Looms

MARYLAND.

Hagerstown. Maryland Ribbon Co.; Washington and Locust Sts.; Silk Ribbons. ..

MASSACHUSETTS.

Lawrence. Bauer, Henry; 616 Essex St.; Henry Bauer, buyer; Corset Cloth, Shoe Cloth and Textile Novelties; electric; sell jobbers. 12
Turner's Falls. McLane Silk Co.; $75,000; F. A. McLane, pres. and buyer; C. E. Hazelton, treas.; P. P. Bauer, supt.; Broad Silks; F. W. Heinrich & Bro., s. agts. 100

NEW HAMPSHIRE.

Keene. Keene Artistic Narrow Web Co.; Congress St.; $30,000; Ferdinand Zecha, pres., agt. and buyer; Henry Zecha, treas.; E. Grube, supt.; Corset and Garment Trimmings; 60 jacquard looms; electric; Ernest Strauss, N. Y., s. agt. ..
Peterboro. Art Weaving Co.; High Grade Trimmings, Tubular Neckwear and Other Narrow Fabrics; Emil von Hagen, buyer; buy 2/20 to 2/100 S. I. and Egyptian art silk, China and Japan tram. ..

NEW JERSEY.

Bayonne. Aronsohn-Bloom Silk Co.; Broad Silks. (Branch of Paterson.) 135
Bloomsbury. John H. Meyer Silk Co.; $50,000; John H. Meyer, pres. and treas.; Henry Prunaret, supt.; Broad Silks; electric; John H. Meyer & Co., N. Y., s. agts.; Henry G. Warland, buyer. ..120
Paterson. Alco Silk Co., Inc.; Gray and Bond Sts.; $12,000; Samuel Cohen, pres., supt. and buyer; Alvin Lederer, treas.; Silk Goods. 50
Paterson. Arcola Silk Co.; 71 Warren St.; $125,000; J. J. Bailey, pres.; S. Longbotham, treas.; J. Bonslead, supt.; Broad Silks; Passavant & Co., N. Y., s. agts. 160
Paterson. Century Silk Mfg. Co.; 112 Straight St.; Broad Silks. 16
Paterson. Giant Silk Mfrs.; Clay and Gray Sts.; $100,000; Broad Silks and Tie Silks. 200
Paterson. Good, Weston E., Co.; 66 Grey St.; $25,000; Weston E. Good, pres., mgr. and buyer; Emil G. Katterman, treas.; Silk Throwing on Commission, Specialty for Knitting Trade; 4,000 spindles; electric. ..
Paterson. Gotthelf & Rosenthal; Pope Mill; Broad Silks; sell direct. 45
Paterson. Joelson, M.; 200 Straight St.; Broad Silks; sell direct. 35
Paterson. Newman, S.; 11 1/2 Fair St.; Commission Warping and Winding; 480 spindles, 5 warping machines, 6 winders. ..
Paterson. Nobles Textile Works; 112 Straight St.; Broad Silks. 8
Paterson. I. Nussman Silk Co.; Atherton Mill; Broad Silks. 12
Paterson. Rosen & Friedman; 112 Straight St.; Broad Silks. 12
Paterson. Savoy Silk Mills; D. Fuchs, prop.; Strange Mill; Broad Silks; sell direct. 60
Paterson. Werbro Ribbon Mfg. Co.; 5th Ave.; cor. Wait St.; $50,000; Abberley Sandford, pres.; Leon G. Wertheimer, treas.; L. Seifer, supt.; Silk Ribbons; Wertheimer Bros., N. Y., s. agts. 50
Waldwick. Wm. Stickel & Co.; Embroideries. ..
West New York. Catoir Silk Co.; Tailors' Linings and Fine Neckwear Silks. (Built new mill and will remove from New York City.) 200
West New York. Otto Stohn; 17 Harrison Pl.; Corset Cloths, etc. 40
West New York. Williams Silk Mfg. Co.; 520 Palisade Ave.; Silk Linings. (Moved machinery from New York City.) 160

NEW YORK.

Beacon. Ludwig Littauer; Matteawan Silk Mill; Main St.; Edward Chiadini, supt.; Silk Throwing; 3,760 spindles; electric. ..
Long Island City. Cornellist Textile Co.; W. P. Cornell, prop.; 257 Hancock St.; Thos. Nellist, supt.; Plushes and Velvets. ..
New York City. Engel, Max & Co., Inc.; 32 W. 18th St.; Max Engel, pres.; Arthur Stiner, treas.; Braids of all Kinds; electric; sell direct. ..
Port Jervis. Kattermann & Mitchell Co.; Church St.; August Kattermann, pres.; James A. Wylie, supt.; Broad Silks; 700 spindles. (Building new reinforced concrete, steel sash and fireproof mill. Begin mfg. about Jan., 1915.) 200

PENNSYLVANIA.

Philadelphia. Circle Silk Co.; 2734 No. 5th St.; Embroidery Flosses for Tacking Hosiery; sell direct. ..
Avoca. Ramsay Silk Co.; $30,000; John Ramsay, mgr.; Hard Twist Silk Yarns; 3,500 spindles. ..
Chester. Abeeco Mills; John R. Stewart, prop.; 10th and Walnut St.; Artificial Spun Silk Yarns; sell direct. ..
Chester. Chester Silk Co., Inc.; 15th and Highland Terrace; J. D. Murphy, pres.; E. V. Murphy, treas.; Artificial Silk; employ 50 hands. ..
Doylestown. Relda Silk Co.; Silk Ribbons. 8
Easton. Haytock Silk Throwing Co.; No. Green St.; Wm. R. Haytock, pres.; C. Cronemeyer, treas.; Benj. Haytock, Jr., agt. and buyer; Mrs. S. Evans, supt.; Thrown Silk on Commission; 3,500 spindles; electric. (Branch of main plant at 15th and Elm Sts., Easton. Building new mill.) ..
Elysburg. Perfect Silk Throwing Co. (Branch of Shamokin). Capital increased to $40,000. Building new mill, 50 by 150 feet; electric. ..
Lebanon. Cumberland Silk Co.; 12th and Walnut Sts.; $15,000; Broad Silks. ..
Lehighton. Lehighton Silk Mills, Inc.; $8,000; J. Zubow (N. Y.), pres. and treas.; Abraham Salzberg, mgr.; Broad Silks; office, 239 Fourth Ave., N. Y. 50
Lopez. Mason Silk Mills; E. T. Manson & Co., props.; W. W. Hemming, mgr. and buyer; H. L. Churchill, supt.; Broad and Tie Silks; steam; sell direct. (Branch of Paterson, N. J.) 120
Norristown. Ott, Frederick; foot of De Kalb Ave.; Cotton Back Satins. 16
Reading. Steiner, Charles; N. E. cor. Reed and Elm Sts.; Dress Silks and Linings; steam. 40
Scranton. Cliff Throwing Co.; Cliff St.; George W. Hartz, supt.; Silk Throwing; 6,000 spindles; electric. ..
Scranton. Kelly Silk Co.; 16 Lackawanna Ave.; Silk Weaving plant. ..
Shamokin. People's Silk Co.; Neillson St.; Broad Silks. ..
Soudertown. Keystone Textile Co. (Branch of Allentown). Broad Silks. 60
Spring City. Queen City Silk Co.; L. Mueller, supt.; Thos. H. Kinney, buyer; Silk Ribbons. (Branch of Allentown.) 50
Susquehanna. Tri-Borough Throwing Co.; Erie Ave.; $50,000; Lucien Jouvaud, pres.; Fortunato Calogero, treas., agt. and buyer; Harry Van Gorder, supt.; Commission Silk Throwing; 10,000 spindles; electric. ..

Tamaqua. Pennsylvania Silk Spinning Co.; $10,000; H. O. Jones, pres., mgr. and buyer; Commission Throwing of Tram and Crepe; 5,000 spindles; electric. ..

Wyoming. Anthracite Silk Throwing Co.; Peter Magagna, pres.; Silk Throwing. (Under construction. Begin mfg. Feb., 1915.) ..

York. Edna Silk Mills; 1159-85 Elm St.; W. F. Pritz., supt. and buyer; High-Grade Silk Ribbons; electric. 32

RHODE ISLAND.

Pawtucket. Eastern Silk Co.; W. Roberts, sec.; E. Fowler, mgr.; Broad Silks. 6

Valley Falls. Burgess-Joyal Corp.; 197 Broad St.; Pierre Joyal, pres. and supt.; Charles Burgess, treas., agt. and buyer; Weave Silk Goods, Quill, Beam, Twist and Spool Cotton and Silk Yarns on Commission; Dye and Bleach Yarns; electric. 24

MISCELLANEOUS NEW MILLS.

CONNECTICUT.

East Hampton. Franco-American Thread Co.; C. Bruggeman, mgr.; Linen Thread; Henry W. T. Mali & Co., N. Y., s. agts. (Branch of H. & L. Rogez, Lille, France.)

FLORIDA.

Titusville. Palmetto Products Co. Reported will build and install 10 looms for weaving Rugs from new fiber.

ILLINOIS.

Chicago. Trautwein, Wm.; 1543 N. Lawndale Ave.; dye and bleach Cotton, Woolen and Silk Yarns; steam and electric. (Capacity 12,000 lbs. daily.)

Dixon. Gossard Co., H. W.; $100,000; H. W. Gossard, pres.; R. C. Stirton, treas.; Sam S. Gossard, supt. and buyer; Waterproofing Silk and Cotton Fabrics.

MASSACHUSETTS.

Boston. Massachusetts Thread Works, Inc.; 357 Cambridge St.; $50,000; Abram Zion, pres.; Charles Hammer, treas.; Cotton and Silk Threads.

East Braintree. East Braintree Bleachery & Dye Works; Henry McCusker, prop.; Clarence Hanson, treas.; Wm. McCusker, supt.; Dye, Bleach and Finish Cotton Piece Goods; steam, water and electric; Thos. B. and Wm. J. McCusker, buyers.

Lowell. Northern Waste Co.; Mix, Clean and Sell Cotton Waste. (Moved from Lawrence.)

MINNESOTA.

Duluth. Northwestern Textile Co.; 49th Ave., West and Ramsay St.; $50,000; Philip Gordon Brown, pres.; Colin Thompson, treas.; James E. Dingwall, agt. and buyer; Linen Towels and Crashes; 50 looms; electric; sell direct.

Duluth. Western Rug Co.; $250,000; Linen Rugs; 500 spindles; 16 looms; electric; dye and finish.

MONTANA.

Great Falls. Northern Flax Fibre Co.; $250,000; Thos. Couch, pres.; S. R. Jensen, treas.; O. M. Holmes, sec.; Tow and Line. (Built large new mill at Conrad, but will not operate in full until Sept., 1915.)

NEBRASKA.

Omaha. Steril Waterproof Fabric Co.; 544 Range Bldg.; $10,000; W. H. Springer, pres.; O. C. Phillips, treas. and supt.; Convert Cotton Goods into Hospital Sheeting, etc.

NEW HAMPSHIRE.

Concord. New England Cable Co.; Bridge St.; $40,000; D. J. MacDougal, pres.; S. Dunsford, treas., supt. and buyer; Insulated Wires and Cables; Electric; sell direct. (Formerly at Lowell, Mass.)

NEW JERSEY.

Paterson. Gaede Silk Dyeing Co.; 4th Ave. and River Sts.; $250,000; Robert Gaede, pres.; William R. Gaede, treas.; Skein Silk Dyeing; steam.

Paterson. Textile Finishing Co.; Todd Mill; $25,000; Henry B. Crosby, pres.; Chas. Barmore, Jr., treas., mgr. and buyer; Finishing, Embossing and Moireing Ribbons and Narrow Fabrics; electric.

Paterson. Textile Printing Co.; 365 Crosby Ave.; $10,000; Louis Schnerber, pres. and buyer; Joseph A. Pelleguin, treas.; Ribbon Machine Printing, Broad Block Printing; electric.

NEW YORK.

Brooklyn. Burton, Oliver M., Co.; Mattresses, Upholstery Felts and Batting; 6 garnetts. (Branch of Chicago, Ill.)

Brooklyn. Eastern District Piece Dye Works, Inc.; 260 Norman Ave.; $100,000; Leontine Klein, pres.; A. Muller, treas.; Alfred R. Teichman, supt. and buyer; Dye and Finish Silk Piece Goods; capacity 300 pieces daily. (To build additions and increase.)

Brooklyn. India Cocoa Matting Mfg. Co.; 181 Hopkins St.; $25,000; S. Hellman, treas.; Joseph Ellman, supt. and buyer; Coco Matts and Matting; 80 matt and 6 matting looms; dye; sell direct.

Dryden. G. B. P. Linen Co.; to manufacture Linen and other Fiber Products; Wm. H. Peterkin, Niagara Falls, N. Y., interested.

New York City. Artistic Piece Dye Works; 343 W. 26th St.; Dye, Bleach and Finish Silk and Silk Mixed Piece Goods; capacity 300 pieces daily.

OHIO.

Cleveland. Cleveland-Akron Bag Co.; Paper Yarns and Bags.

PENNSYLVANIA.

Philadelphia. Girard Mills; H. K. Wilson, prop.; Mascher and Turner Sts.; Linen and Cotton Towels, Dress Goods, etc.

Philadelphia. Haney & Ebener; 1753-1755 No. Howard St.; Waste, Carding, Blending, Garnetting, Picking, Burring.

Philadelphia. Kensington Winding & Twisting Co.; Jos. Flanagan, prop.; Mascher St. and Lehigh Ave.; Winding, Twisting, Coning and Tubing of Linen, Cotton, Woolen, Worsted, Silk, Art. Silk and Ramie Yarns.

Philadelphia. Pennsylvania Ribbon Finishing & Watering Co.; 414 E. Allegheny Ave.; J. Knebel, prop.; Finishing and Watering Silk Ribbons, Belting, Braids and Novelties; steam and gas.

Philadelphia. Pennsylvania Silk Dyeing & Finishing Co.; $20,000; Andrew Demetre, pres. and mgr.; A. Veluard, treas., supt. and buyer; Dye and Finish Woolen, Cotton and Silk Fabrics.

Philadelphia. Philadelphia Silk Dye Works; Germantown & Hunting Park Ave.; $5,000; Dye Skein Silk.

Philadelphia. Russell, W. R.; 23d and Hamilton Sts.; Dyeing Skein Silks and Artificial Silk. (Capacity 500 lbs. daily.)

Philadelphia. Wiseman & Keller; Rear 4040 Germantown Ave.; Dyeing Silk and Art. Silk Yarns in the Skein.

Pittsburg. Bunting, J. R., Bedding Co.; 2840 Liberty Ave.; Bedding. (Branch of Phila.)

RHODE ISLAND.

Kenyon. Eastern Finishing Works; $150,000; Wm. L. Barrell, pres.; Theophilus King, treas.; W. H. Adams, mgr. and buyer; Arthur P. Cooley, supt.; Custom Waterproofing, Dyeing, Printing and Specialty Finishing; steam, water and electric. (See Lawrence, Mass.)

Pawtucket. McKenzie-McKay Co.; Beverage Hill Ave.; $100,000; Jos. Quarmby, pres.; Geo. McKenzie, treas.; Thos. McKay, agt. and buyer; Warp Mercerizing and Yarn Dyeing in Warps and Skeins; electric.

Pawtucket. Pawtucket Lace Co.; $100,000; W. H. Smith, pres. and buyer; Frank L. Gatchel, treas.; Samuel Griffiths, supt.; Laces, Commission Dyeing and Finishing; sell direct.

Providence. Roll Fabric Co.; 21 Sabin St.; $50,000; Wm. L. Mauran, pres.; Thos. E. Steere, treas.; Charles W. Royce, gen. mgr. and buyer; Special Fabric for Drawing and Spinning Roll Covering; sell direct.

Warren. French Mfg. Co.; $35,000; Winding and Twisting Fancy Yarns.

Woonsocket. Model Dyeing & Printing Co.; South Main St.; $50,000; Raphael Daigneault, pres.; Alfred Daigneault, treas.; Max Job, mgr. and buyer; Dyeing Tops and Vigoureaux Printing; electric.

TEXAS.

Waco. Clifton Mfg. Co.; A. T. Clifton, pres.; W. D. Lacy, vice-pres.; W. R. Clifton, treas.; J. C. Austin, gen. mgr.; Convert Cotton Products into Bags of all Kinds; print and finish.

CANADA.

Alberta, Calgary. Western Canada Cordage Co.; $500,000. Reported will build at Manchester, a suburb of Calgary.

Ontario, Niagara Falls. Canadian-Niagara Linens, Ltd.; 24 Empire Bldg.; $300,000; A. Fergusson Macintyre, mgr.; Household and Dress Linens; dye, bleach and finish; electric. (Built new mill on Fourth Ave.)

Quebec, Montreal. Kay, F.; 231 Chatham St.; commission skein dyeing.

Projected Industries

Under this head are enumerated such projects as are now in course of construction, or which in all probability soon will be, but are not sufficiently far advanced to be properly identified in the list of new mills.

COTTON.

GEORGIA.

Cedartown. Peerless Cotton Mills; $250,000; A. E. Young, pres.; A. H. Van Devander, sec.; 24s to 40s yarns. (Took over the plant of the Cedartown Knitting Co. Plan to build new building and install 17,000 spindles.)

OKLAHOMA.

Muskogee. P. B. Hopkins. Organizing concern to manufacture cotton goods.

TEXAS.

San Antonio. W. J. Edgecomb, head of Committee of Retail Merchants, interested in organizing cotton mill company.

Texas City. Texas City Cotton Mfg. Co.; $500,000; D. J. M. Head, organizer. (Office, Scanlon bldg., Houston.)

VIRGINIA.

Chatham. B. F. Bryant, Chatham Light & Power Co.; contemplating building cotton mill in connection with new hydro-electric plant.

WOOLEN.

RHODE ISLAND.

Providence. J. & K. Worsted Co.; Hartford Ave., Olneyville; $50,000; John H. Jones, pres.; John L. Kehoe, treas.; John Caputo, sec.; Worsted Goods. (To build new brick mill, 1 story, 272 by 62 feet.)

CANADA.

Ontario, Kincardine. Mitchell, Wm.; Woolen Yarns, Tweeds, Blankets and Socks.

KNIT.

GEORGIA.

Gainesville. Gainesville Hos. Mill Co.; $100,000; A. C. Meldrum, pres.; Henry A. Malcolm, treas.; Men's and Ladies' Fine Hosiery; steam and electric; 100 knitting machines. (Begin building about Jan. 1, 1915.)

ILLINOIS.

Chicago. Wittenberg & Goldberger; Knit Goods.

NEW JERSEY.

Trenton. Goodwear Hosiery Mills; 143 E. State St.; $100,000; S. Irvine Bell, pres. and buyer; Wellington E. Breese, treas.; Men's, Women's and Children's Hosiery. (Will not manufacture until 1915.)

PENNSYLVANIA.

Philadelphia. Pennsylvania Knitting Mills Co.; $200,000; Full Fashioned Hosiery.

Philadelphia. Rivet-Knit Hosiery Co.; J. E. Bougher; 1215 Market St.; reported interested.

Montoursville. New Berlin (Pa.), Knitting Factory may establish branch here.

Reading. Binkley, Irwin; 1040 Oley St.; Ladies' Goods.

Reading. Barkert, H. J.; Box 363; Silk Hosiery; 220-240 needles.

SOUTH CAROLINA.

Blacksburg. Volunteer Knitting Mill; J. G. Sapoch, Chas. Baber and P. T. Camp, interested.

TENNESSEE.

Rogersville. Rogersville Knitting Co.; Hosiery and Fancy Knit Goods. (Proposed.)

CANADA.

Quebec, Three Rivers. Cambridge Knitting Mills, Ltd.; $50,000; Men's, Women's and Children's Underwear.

MISCELLANEOUS.

CONNECTICUT.

Sprague. Park, Angus, Hair Cloth Co.; $30,000; Lambert Huntington, pres.; Angus Park, treas.; Hair Cloth.

MASSACHUSETTS.

Franklin. Massachusetts Waste Co. Proposed to build new waste cleaning plant and move business from So. Sudbury.

CANADA.

Quebec, Massueville. R. J. Reeves; Canadian Crash Co.; Toweling; 1,200 spindles; 100 looms. (Will build new mill.)

Important Changes

COTTON.

CONNECTICUT.

Norwich. Laurel Hill Mfg. Co.; John T. F. Burns, prop.; 103 Broadway; Braided Cords and Clothes Lines; electric. (Formerly Ossawan Mills.)

Waterbury. American Mills Co. of Waterbury, New Haven Web Co. of Hamden, and the Narrow Fabric Corp. of New Haven consolidated under the name of The American Mills Co.; general offices at Waterbury; enlargements under construction.

GEORGIA.

Elberton. Elberton Mfg. Co.; $60,000; J. C. Plonk (Cherokee Falls, S. C.), pres. and buyer; R. P. Roberts, treas.; T. M. Plonk, asst. treas.; T. J. McNeely, supt.; Print Cloths and Rope; steam; Wilson & Bradbury, N. Y., s. agts. (Succeeded Home Cotton Mill.)

Hawkinsville. Hawkinsville Cotton Mill; $75,000; C. P. Gentry, pres.; Sheetings. (Took over plant of Southern Cotton Mills.)

Quitman. Quitman Mfg. Co.; $100,000; Combed Sea Island Yarns. (Succeeded Atlantic & Gulf Mills.)

Winder. Barrow County Cotton Mills; $125,000; reorganization of Winder Cotton Mills.

KANSAS.

Kansas City. Wyandotte Cotton Mills Co.; succeeded Kansas City Cotton Mills.

LOUISIANA.

New Orleans. Maginnis Cotton Mills; Louis Kohlmann, gen. mgr.; W. Loeber Landau, supt.; Sheetings, Duck, Drills, Osnaburgs, Cement Bags; 40,000 spindles; 1,300 looms. (Took over old Maginnis Cotton Mills and made extensive improvements.)

MASSACHUSETTS.

Framingham. Seamans & Cobb Thread Mills; Manufacture and Convert Threads. (Moved from Sharon.)

Springfield. Carrigan & Hill; Talcott and Fiske Ave.; Cleaning, Sorting and Grading Cotton Waste. (Succeeded to plant of L. M. Calder & Wilcox Co.)

MISSISSIPPI.

Kosciusko. Aponaug Mfg. Co.; $125,000; J. W. Saunders, pres. and treas.; F. H. Moore, supt. (Succeeded Kosciusko Cotton Mills.)

Moorhead. Mississippi Cotton Mills Co.; $250,000; Walter H. Carter, pres.; Peter H. Corr, vice-pres.; Sheridan E. Cooper, 208 Security Bldg.; St. Louis, sec. and treas. (Took over plant of Bellevue Mills Co.)

NEW YORK.

Pleasant Valley. Thompson, James, & Co.; will operate cotton mill here on various grades of twine, principally cotton twine and threads, as branch of Valley Falls plant.

NORTH CAROLINA.

Bessemer City. Gambrill & Mellville Mills of Havre de Grace, Md.; taken over Harborough Mill; making extensive repairs on buildings; replacing carding, drawing, roving and spinning equipment.

Central Falls. Central Falls Mills; $28,000; J. B. Stroud, pres.; R. L. Caveness, sec. and treas.; E. O. York, supt.; Coarse Cotton Yarns; took over Central Falls plant of the Worth Mfg. Co.

Mariposa. Mariposa Mills; John J. Ormand, treas.; Chas. A. Davis, supt.; 18s to 30s cotton yarns; 3,264 spindles; steam and water; James E. Mitchell Co., s. agts. (Taken over and started up idle plant.)

Salisbury. Jamack Cotton Mills Co.; $50,000; M. L. Jackson and W. A. McCanlass; Cotton Novelties; took over Littmann Mill.

Tarboro. Tarboro Cotton Factory; taken over by L. L. Staton, Job Cobb and E. V. Zoella; L. L. Staton, pres.; C. H. Pollard, supt.; improvements made.

Worthville. Riverside Mills, Inc.; $50,000; J. S. Lewis, pres.; C. J. Cox, treas.; I. N. Cox, sec. and buyer; Geo. S. Caine, supt.; Sheetings, Drills and Bags; 7,000 spindles; 248 looms; steam and water; Haines Moorhouse & Woodford, s. agts. (Took over Northville Mill of North Mfg. Co.)

RHODE ISLAND.

Pawtucket. Lasek, L.; taken over management of No. 3 Mill of Slater Mfg. Co., and weaving specialties.

Providence. Union Webbing Co.; Taunton Ave.; $20,000; Wm. C. Johnson, treas.; J. Townsend Walker, vice-pres. and mgr.; Beltings and Tubular Neckties. (Moved from Lowell, Mass.)

SOUTH CAROLINA.

Batesville. Prospect Mills; $25,000; MacMillan C. King, pres. and buyer; E. J. De Camp, treas.; 8s to 12s single and ply yarns; 3,012 spindles; Tillinghast Stiles & Co., s. agts. (Reorganization of Batesville Mfg. Co.)

VIRGINIA.

Emporia. Clinton Mills Co.; $150,000; H. A. Ayvad; pres.; E. M. Faddon, treas. and supt.; Cotton Goods; 5,000 spindles; 100 looms; electric. (Formerly at Hoboken, N. J.)

WOOLEN.

CONNECTICUT.

Elmville. Sonnhill Worsted Co.; $75,000; A. G. Bill, pres.; L. G. Massicotte, treas.; Paul E. Meissner, agt. and buyer. (Took over plant of Elmville Worsted Co.)

Norwich. Reliance Yarn Co.; Main St.; $30,000; John Campbell, pres.; Philip Henault, treas., agt. and buyer; Woolen and Merino Yarns for Weaving and Knitting; dye (raw stock and yarn); 8 sets cards; steam and electric; sell direct. Succeeds Reliance Worsted Co.)

Thompsonville. Bigelow-Hartford Carpet Co.; merger of Hartford Carpet Corp., of Thompsonville, and the Bigelow Carpet Co., of Clinton and Lowell, Mass.

Yantic. Ardmore Woolen Mills Co.; taken over plant of Yantic Woolen Co.

MAINE.

Foxcroft. American Woolen Co.; took over mill of Mayo & Son, Inc.

Pittsfield. Pioneer Woolen Mills, Waverly Woolen Company's Mill, Pittsfield and Newport (Me.) Woolen Company's plant sold to Henry P. Binney with the expectation of leasing them to American Woolen Co.

Skowhegan. American Woolen Co.; Arms Mill; took over Marston Mill and Commonwealth Shoe Factory building; new equipment installed.

MASSACHUSETTS.

Lowell. Allerton Worsted Mills; machinery moved to Silesia Wstd. Mills at No. Chelmsford.

Lowell. Bigelow-Hartford Carpet Co.; $13,550,000; R. P. Perkins, pres.; Alvin D. Higgins, vice-pres.; merger of Bigelow Carpet Co., Lowell and Clinton, Mass., and the Hartford Carpet Corp., Thompsonville, Conn.

North Billerica. North Billerica Co.; $150,000; Ford C. Farnsworth, pres.; Daniel W. Farnsworth (N. Y.), treas.; Harold M. Stevens, asst. treas., agt. and buyer; Flannel Shirtings; 8 sets; 60 looms; steam; Deering, Milliken & Co., s. agts. (Took over Faulkner Woolen Mill.)

Worcester. Queensbury Mills, Inc.; $425,000; F. H. Dewey, pres.; A. H. Stone, treas.; Fred Hodgson, mgr.; reorganization of Queensbury Mills; weaving department discontinued and additional spinning machinery installed.

NEW HAMPSHIRE.

West Concord. Thomas Hodgson purchased plant of Crescent Worsted Co.; mfg. Worsted Yarns on Bradford System.

NEW YORK.

Auburn. Nye & Wait-Kilmarnock Corp.; $360,000; Charles L. Fetterly, pres.; George H. Nye, treas., and E. A. Jones, supt.; Rugs and Woven Fabrics. (Kilmarnock plant to be moved to Auburn and large increase made.)

Falconer. Ferncliff Mill, Cleveland Wstd. Mills Co.; Fred W. Dixon, mgr.; Worsted Yarns; increased spinning equipment and will build weave shed and install looms. (Formerly Lyndon Wstd. Mill.)

PENNSYLVANIA.

Philadelphia. Henry, Wm. & James G., Inc.; Woolen and Merino Yarn plant at 18th St. and Fisher's Lane reported purchased by Wilson H. Brown, 32 Strawberry St.

Philadelphia. Keystone Mending Co.; 6th and Huntingdon Sts.; succeeded Providence Mending Co.

Philadelphia. Lefferts, Geo. W., & Co., Inc.; $50,000; Geo. W. Lefferts, pres.; Warren T. Rawson, treas. (Succeeded Geo. W. Lefferts & Co.; improved power dept. and equipped new dyeing dept.)

Bridgeport. Integrity Wstd. Spinning Mills; Woolen and Bradford Spun Worsted Yarns up to 30s; 1,000 worsted spindles. (Took over worsted machinery of Wm. Barber.)

Chester. Thurlow Worsted Mills; Fred Wolstenholme, prop.; Fifth and Morton Sts.; Worsted Yarns up to 32s. (Took over plant of Emmott Worsted Spinning Co.)

Stroudsburg. Kitson, Thos., & Son, Inc.; $100,000; Thos. J. Kitson, pres.; Frank Michaels, treas.; Wool Cloakings and Suitings; 7 sets; 60 looms; steam and water; dye and finish; Holmes & Long, s. agts. (Reorganization of Thos. Kitson and son.)

RHODE ISLAND.

Carolina. Carolina Co.; $60,000; John R. Hinchliffe, pres.; Whiting Metcalf, treas.; Woolens for Men's and Women's Wear; 8 sets; 48 looms; steam and water; Messrs. Metcalf and Pickford, buyers; Peacedale Mfg. Co., s. agts. (Succeeded Carolina Mills Co.)

Forestdale. Ambach, W. F. & Co.; Flocks; succeeded James Pitts & Son and added a picker and 3 sets shoddy cards to equipment.

WEST VIRGINIA.

Martinsburg. Berkeley Woolen Co.; $50,000; H. H. Emmert, pres.; Shirley Carter, treas.; H. B. McCornac, gen. mgr. (Taken over plant of Crawford Woolen Mill.)

Martinsburg. Dunn Woolen Co.; $50,000; Thomas L. Dunn, pres.; F. C. Foreman, treas. (Taken over plant of Martinsburg Worsted & Cassimere Co.; built additoin and added set of cards.)

KNIT.

GEORGIA.

Douglasville. Douglas Hosiery Mills; $25,000; J. T. Duncan, pres., treas. and buyer; D. W. Brown, supt.; 200-needle Half Hose; 50 knitting machines; sell direct and through Cliver, Wright & Rainey, Cincinnati, and L. C. Vaughn, N. Y.; buy 14 and 18 mule spun. (Took over Douglasville Knitting Mills.)

ILLINOIS.

Chicago. Exmoor Knitting Mills; moved from Highland Park to 33 W. Kinzie St., Chicago.

MICHIGAN.

Detroit. Victor Knitting Mills; 48-50 Jefferson Ave.; $25,000; David R. Stocker, pres. and buyer; Sweaters, Woolen Hosiery and Fancy Knit Goods; 5 sewing machines; electric; sell direct. (Took over plant of Ryan Bros. Ktg. Co.)

NEW YORK.

Athens. Athens Textile Co., Inc.; $50,000; Daniel O'Day, pres.; J. R. McLaren (Hudson), treas. and buyer; Men's Ribbed Underwear and Union Suits and Sweater Coats; 4 sets wool cards; 60 sewing machines; dye (raw stock and piece) and finish; steam; Barnes, McGoey & Ely, New York, s. agts.

Brooklyn. Bo-Sho Mills, Inc.; 780 Madison St.; $25,000; J. A. Boepple, pres. and buyer; Geo. M. Schoepflin, treas.; Sweater Coats and Fancy Knit Goods; 50 knitting and 35 sewing machines; Clift & Goodrich, N. Y., s. agts. (Took over Central Knitting Co.)

New Hartford. Lewis Routstone & Kowalsky; J. Routstone, pres.; M. Lewis, treas.; F. Bryan, mgr. and buyer. (Taken over Ilima Underwear Mill.)

Utica. Frisbie & Stansfield Ktg. Co.; Francis K. Kernan, pres.; Wm. J. McQuade, vice-pres. and Wm. M. Myers, N. Y., sec. and treas.; succeeded company of the same name and taken over the Regal Mill at Syracuse and the Ontario Mill at Oswego.

PENNSYLVANIA.

Philadelphia. Deal Knitting Mills; formerly Brentmoor Knitting Mills; Wissinoming; established new plant for embroidering their product.

Philadelphia. Oneida Ktg. Co.; taken over plants of Oneida Regal Co. at Oneida, Stittville, Waterville, N. Y., and Phila.

Allentown. Brooks, C. E., Knitting Co.; Clarence E. Brooks, prop.; 939 Lawrence St.; Children's Waists; 27 sewing machines; 9 knitting machines; steam; finish; John M. Cromie & Co., Phila., s. agts.; buy 1/14 and 1/20 cotton yarns. (Succeeded Alpha Knitting Co.)

Catawissa. Arhet Hosiery Mfg. Co.; Harry West; Men's and Women's Fine Gauge Silk Mercerized and Cotton Hosiery; took over Catawissa Knitting Mills and added new machinery.

Nazareth. Nazareth Hosiery Co., Inc.; $15,000; Fred Wunderly, pres.; R. M. Getz, treas.; Jas. Gadbois, supt.; Misses' and Children's Hosiery; 65 knitting machines; steam. (Took over Nazareth Knitting Knitting Mills.)

WISCONSIN.

Stevens Point. Racine Underwear Mills; $25,000; Moritz Zarne, pres.; David Zarne, treas.; Fred Braun, mgr. and buyer. (Taken over Racine Underwear Mills and increased capacity.)

SILK.

MASSACHUSETTS.

Worcester. Bancroft Textile Co.; Park Ave.; $50,000; Arthur O. Berry, pres.; Harold A. Johnson, vice-pres. and mgr.; Chas. W. Russell, treas.; Tapes, Bindings, Edgings. (Took over plant of H. M. Witter & Co.)

NEW JERSEY.

Paterson. Hewitt-White Co.; 5 Mill St.; Benj. F. White, pres.; Chas. Hewitt, treas. and buyer; Braids, Silk and Cotton Shoe Laces and Ribbons. (Succeeds Chas. Hewitt.)

NEW YORK.

New York. Stehlisilks Corporation; $2,000,000; new corporation taking over American business of Stehli & Co.; mills at High Point, N. C., and Lancaster, Pa.

Olean. Dunlop Bros.; taken over plant of Feder Silk Throwing Co. and operating as branch of mill at Spring Valley, N. Y.)

Theresa. Indian River Silk Co.; $10,000; John P. Clark, pres.; H. K. Gaynor, Jr., treas.; Broad Silks; 70 looms; electric. (Took over Theresa Silk Mill.) (To add 30 looms.)

Watertown. Toohey Silk Mills, Inc.; $100,000; Peter A. Toohey, pres. and buyer; F. L. Lutz, treas. and Charles H. Spittel, supt.; Satins, Taffetas and Similar Goods; 150 looms; electric; sell direct at 357 4th Ave., N. Y. (Took over and increased Watertown plant of Valentine & Bentley.)

PENNSYLVANIA.

Berwick. Jouvaud & Lavigne Co.; Commission Throwing. (Took over Colonial Spinning Mill of F. Q. Hartman, Inc.; also Danville.)

Columbia. Schwarzenbach, Huber Co.; Dress Silks. (Branch of W. Hoboken.) (Took over plant of Ashley & Bailey Co.)

Danville. Jouvaud & Lavigne Co.; Commission Silk Throwing. (Took over Montour and Nemoloton Mills of F. Q. Hartman, Inc.; also Berwick and Riverside.)

Riverside. Jouvaud & Lavigne Co.; Commission Throwing. (Took over Seminole Mill of F. Q. Hartmann, Inc.; also Danville.)

Scranton. Electric City Throwing Mills; Academy St. and S. Fillmore Ave.; $50,000; A. F. Kizer, pres.; W. J. Cobb, treas.; F. J. Lees, supt.; Commission Silk Throwing; 26,000 spindles; steam and electric; purchased plant and business of Ashley Silk Co.

Scranton. Renard Silk Co.; So. Washington Ave. and Hickory St.; $150,000; J. W. Warnke, pres.; Henry Brown, treas.; Wm. H. Kilgour, mgr. and buyer; 20,000 spindles; electric. (Resumed mfg. after leasing plant for term of years.)

RHODE ISLAND.

Central Falls. Meehan, J. S. & W. E.; Samoset Bldg.; Broad Silks; 14 looms. (Formerly at Pawtucket.)

Pawtucket. Hamlet Textile Co. (Woonsocket); taken over management of Silk Department of Slater Mfg. Co.

MISCELLANEOUS.

MASSACHUSETTS.

North Brookfield. Phoenix Linen Co.; $1,400,000 (authorized); W. Dean Smith, pres.; H. C. Keith, treas.; Robt. Andrews, mgr. and buyer; All Linen Goods; steam and electric; sell direct. (Reorganization of Oxford Linen Mills.)

NEW YORK.

New York Mills. Oneida Bleachery, Inc.; $300,000; Alexander Hobbs, pres.; Walter L. Lowry, treas.; convert khaki, muslins, cambrics, nainsooks for domestic and export trade; make sheets and pillow cases. (Took over bleachery of New York Mills.)

CANADA.

New Brunswick, Dorchester. Eastern Linen Mills, Ltd.; $120,000; Geo. T. Douglass, pres.; John C. Bourimot, treas., mgr. and buyer; W. Dixon, supt.; Linen and Cotton Towels and Crashes, Hammocks and Shawls; 36 looms; steam; sell direct and E. H. Walsh & Co., s. agts. (Succeeded Oxford Worsted Linens, Ltd.)

Ontario, Guelph. Dominion Linens, Ltd.; reorganization of Dominion Linen Mfg. Co., Guelph, and Oxford Linen Mills, Tillsonburgh.

Ontario, Walkerton. Imperial Cordage Co.; Hard Fiber Rope. (Started up old binder twine factory.)

Enlargements and Improvements

COTTON.

ALABAMA.

Alabama City. Dwight Mfg. Co.; enlarged power department and installed three new boilers.

Anniston. Anniston Yarn Mills; built additions and installed 3,264 spindles.

Athens. Fulton Cotton Mill; $150,000; J. W. Frost, pres.; C. E. Frost, treas.; W. P. Hurt, mgr., supt. and buyer; added duck weaving department of 238 looms.

Eufaula. Glenola Cotton Mills; equip weave room to produce fine and fancy goods.

Florence. Ashcraft Cotton Mills; addition constructed; plant overhauled and equipped to manufacture a new line of fancy cotton dress goods.

Girard. Girard Cotton Mills (Eagle & Phenix Mills); $125,000; G. Gunby Jordan, pres.; J. D. Massey, treas. and buyer; H. O. Davidson, supt.; replaced 200 old looms with 200 new automatic looms.

Huntsville. Merrimack Mfg. Co.; plant overhauled and 300 new automatic looms installed.

Piedmont. Coosa Spinning Co.; installed 22 new spinning frames, several twisters, combers, etc.

Selma. Valley Creek Cotton Mills Co.; $150,000; Jesse Peterson, pres.; Jas. Reid, treas.; W. R. Shearston, agt. and buyer; J. W. Pierson, supt.; added water proofing, printing and sewing machines to convert Mill Product into Cement Bags.
Sylacauga. Marble City Mills; Benjamin Russell, pres.; S. P. MacDonald, sec. and treas.; erected addition and installed equipment for making high quality yarns.

CONNECTICUT.

Jewett City. Ashland Cotton Co.; installing 100 new looms, winders, electric motors, etc.
Killingly. Killingly Mfg. Co.; installing 1 picker, 19 cards, 8 speeders, 4,632 spindles, 2 spoolers, 4 warpers and 14 60-inch looms.
Putnam. Manhasset Mfg. Co.; Tire Fabrics; building addition, giving 10,000 additional square feet of manufacturing space.
Unionville. Broadbent, J. & Son; building 3-story brick building, 100 by 50 feet, and will install some new machinery for the manufacture of cotton batting and absorbent cotton; increasing the output 100 per cent.
Versailles. Totokett Mfg. Co.; built new mill, 46 by 108 feet; equipped to manufacture fine lawns.
Versailles. Versailles-Sanitary Fibre Mills; installed 6 new cards; increases in other departments.

GEORGIA.

Barnesville. Aldora Mills; ordered 56 new looms.
Columbus. Columbia Mfg. Co.; erecting new warehouse, 54 by 160 feet.
Columbus. Meritas Mills; built addition, 120 by 50 feet, for storage purposes; built new warehouse, 100 by 150 feet.
Clumbus. Eagle & Phenix Mills; overhauled plants and installed new equipment; changed to electric power.
Columbus. Swift Spg. Mills; built addition, 3 stories high, 117 by 133 feet; added 13,000 spindles; increased capital to $300,000.
Dalton. Crown Cotton Mills; installed 136 automatic looms to replace old looms.
Fitzgerald. Fitzgerald Cotton Mills; built weaving mill and installed 120 looms.
Glovers. Juliette Milling Co.; installed new cards replacing old equipment.
Griffin. Rushton Cotton Mills; 5,000 spindles added, replacing old equipment.
Lafayette. Lafayette Cotton Mills; replaced 200 old looms with 220 new automatic looms.
Lindale. Mass. Cotton Mills in Ga.; 440 new automatic looms to replace old looms.
Macon. Bibb Mfg. Co.; installed several new boilers.
Manchester. Manchester Cotton Mills; built 2-story brick addition and installed 3,200 spindles and a number of looms.
West Point. Lanett Cotton Mills; new cards, drawing frames and roving frames installed.
West Point. Lang Cotton Mills; added 2,200 spindles.
West Point. Riverside Cotton Mills; built $10,000 addition to cloth room.

ILLINOIS.

Aurora. Aurora Cotton Mills; replaced old looms with new automatic looms.

MARYLAND.

Savage. Savage Mfg. Co.; Cotton Duck and Drier Felts; erected addition and increased capacity.
Warren. Warren Mfg. Co.; added 5 twister frames and several looms.

MASSACHUSETTS.

Fall River. Fall River Iron Works; installed 4,094 new automatic looms, replacing old narrow looms; changed to electric drive.
Fall River. Lincoln Mfg. Co.; installing 250 new looms in No. 2 mill.
Fisherville. Fisher Mfg. Co.; built new 4-story addition and installed new cards, roving machinery and looms.
Holyoke. Lyman Mills; building 3-story addition costing about $100,000, to be used as a cloth department; also new 9-story building to be used as a stock room.
Holyoke. Merrick Mills (American Thread Co.); making extensive changes in bleaching and dyeing department.
New Bedford. Nashawena Mills; 2-story brick addition, 30 by 78 feet, to weave shed, for conditionnig room.
North Adams. Hoosac Cotton Mills; installed 100 new looms; replacing old equipment; erecting new power house.
Rockland. Rockland Webbing Co.; erected new mill and installed a number of new looms.
Saundersville. Saunders Cotton Mills; installed 15 new spinning frames and a humidifying system.
Taunton. N. E. Cotton Yarn Co.; installed large amount of new machinery to replace old equipment.
Webster. Slater, S. & Sons, Inc.; built new weave shed, 174 by 293 feet.

MISSISSIPPI.

Columbus. Tombigbee Cotton Mills; installed $18,000 worth of new reeling machinery to replace old equipment.

NEW HAMPSHIRE.

Claremont. Monadnock Mills; Quilts; built addition increasing capacity by 100 looms; installed new yarn machinery and built new power plant.
Manchester. Amoskeag Mfg. Co.; remodeling and increasing bag mill to largely increase the output.
Manchester. Stark Mills; building new power plant; to install a number of 300 h. p. boilers.
Nashua. Nashua Mfg. Co.; built and equipped addition, 150 by 100 feet, 5 stories high.
Salmon Falls. Salmon Falls Mfg. Co.; installed 600 new automatic looms, replacing old equipment.
Suncook. Suncook Mills; weaving dept. of Webster Mill, Webster dept., re-equipped with automatic looms; new looms and yarn equipment installed in China Mill dept.; new looms in Pembroke dept.

NORTH CAROLINA.

Albemarle. Efird Mfg. Co.; built enlargement, 50 by 75 feet; installed 12 new cards; added new dyeing equipment.
Asheville. French Broad Mfg. Co.; installed new looms and new bleaching equipment; proposed to build $150,000 spinning mill and double weaving department.
Burlington. King Cotton Mills Corp.; $125,000; H. D. Eichelberger, pres.; Thos. F. Jeffress, treas.; Carded Hosiery Yarns; 16s, 18s and 20s; replaced old equipment and added new spindles, bringing equipment up to 9,180 spindles; electric. (Office, 921 Mutual Bldg., Richmond, Va.)
Charlotte. Chadwick-Hoskins Co.; installed 5,000 spindles and preparatory equipment.
Concord. Brown Mfg. Co.; installed 24 new spinning frames and new looms, replacing old equipment.
Concord. Roberta Mfg. Co.; $25,000; J. C. Rankin, pres.; S. M. Robinson, treas.; E. M. Keller, supt.; 10s to 20s Hosiery Yarns; water and electric; 1,000 spindles (Rebuilt plant.)
Forest City. Florence Mills; installed 162 automatic looms, replacing 200 old looms.
Gastonia. Gastonia Cotton Mfg. Co.; Cotton Yarns; added 5,040 new spindles to replace old equipment.
Gastonia. Flint Mfg. Co.; built new mill to be equipped with 11,500 spindles and preparatory equipment, doubling capacity.
Henderson. Henderson Cotton Mills; disposed of weaving dept. and operating entire plant on hosiery yarns.
High Point. Pickett Cotton Mills, Inc.; added 1,024 spindles and 32 looms; considering increasing capacity 200 per cent.
Kannapolis. Patterson Mfg. Co.; built new 2-story mill and equipped with 2,000 spindles.
King's Mountain. Phenix Mfg. Co.; built weave shed and installed 320 looms.
Lumberton. Jennings Cotton Mills, Inc.; added 2,000 spindles.
Mayesworth. Mayes Mfg. Co.; built new 3-story mill and installed 5,000 spindles.
Randleman. Deep River Mills; built new warehouse and cloth room; completed new power plant.
Reidsville. Edna Cotton Mills; installed 400 automatic looms, replacing old equipment.
Roanoke Rapids. Rosemary Mfg. Co.; built new spinning mill, new weaving mill, new picker building, and added new equipment, doubling capacity.
Rockingham. Hannah Pickett Mills; built new mill and equipped with 4,500 spindles and 100 looms; electric power.
Roxboro. Roxboro Cotton Mills; 10s to 14s cotton yarns; added 5,000 spindles.
Selma. Selma Cotton Mill; Hosiery Yarns; added 5,280 spindles; installed electric power.
Spray. Thread Mills Co.; planning to build new central power plant for its various mills.
Winston-Salem. Arista Mills; installed 500 new looms.

PENNSYLVANIA.

Philadelphia. Sullivan, J. & Sons Mfg. Co.; Narrow Fabrics; building new 5-story mill, 50 by 208 feet; to consolidate plants and add new equipment.

Chester. Aberfoyle Mfg. Co.; enlarged power department.
Lancaster. Conestoga Steam Mills; rebuilding boiler house and will install 5 new 300 h. p. boilers.

RHODE ISLAND.

Anthony. Coventry Co.; added 1,216 new warp spindles.
Berkeley. Berkeley Co.; replaced mules with ring frames; overhauled power department.
Natick. Natick Mills; B. B. & R. Knight; replaced mules with ring frames.
Pawtucket. Jenckes Spinning Co.; built new 2-story weaving mill; added 40 new looms.
River Point. Arctic Mill; B. B. & R. Knight; added new ring frames to replace mule spinning.
Valley Falls. Hesse Mfg. Co.; Narrow Woven Fabrics; built addition and added 16 looms.

SOUTH CAROLINA.

Anderson. Equinox Mills Co.; $500,000; Wm. H. Wellington, pres.; Francis B. Sears (Boston), treas.; Robt. E. Ligon, mgr.; Duck; erected addition and increased equipment to 18,000 spindles; 438 looms; steam and electric; Wellington, Sears & Co., Boston, s. agts.
Camden. Hermitage Cotton Mills; installed 200 new automatic looms.
Central. Isaqueena Mills; installed 280 40-inch looms in place of 400 28-inch looms.
Clinton. Clinton Cotton Mills; added 2,700 new spindles.
Goldville. Banna Mfg. Co.; built addition and added 4,000 spindles and 96 looms.
Graniteville. Graniteville Mfg. Co.; replaced old weaving equipment with 700 automatic looms; doubled Vaucluse Mill.
Lexington. Lexington Mfg. Co.; added 100 looms and several spinning frames.
Pelzer. Pelzer Mfg. Co.; installed 260 automatic looms.
Piedmont. Piedmont Mfg. Co.; built new cloth room; space formerly occupied by cloth department filled with looms; added new cards, electric power equipment, etc.
Rock Hill. Hamilton Carhartt Cotton Mills; added 2,000 spindles and 100 looms.
Union. Monarch Cotton Mills; built new mill and equipped with 20,000 ring spindles and 500 automatic looms for making print cloths.
Whitmire. Glenn-Lowry Mfg. Co.; installed 5,000 new spindles and 50 automatic looms.
Whitney. Whitney Mfg. Co.; building new 3-story mill, 180 by 102 feet; to add 13,000 spindles.

VIRGINIA.

Danville. Riverside & Dan River Cotton Mills; installed 150 new spinning frames, replacing old equipment.
Lynchburg. Lynchburg Cotton Mill Co.; added 10,000 new spindles and made improvements in power plant.

WOOLEN.

CONNECTICUT.

Bridgeport. Salt's Textile Mfg. Co.; increased capital to $2,000,000; built extensive additions.
Killingly. Assawaga Co.; erected new boiler house and added new boiler.
Mechanicsville. French River Textile Co.; remodeling dyehouse and making changes and improvements.
Mystic. Mystic Woolen Co.; installed stock blower and rearranged equipment in picker house.
Somerville. Somerville Mfg. Co.; erected addition, 60 by 80 ft., to dyeing and finishing department.

INDIANA.

La Porte. La Porte Woolen Mills; aded 10 new wide looms.
Mexico. Mexico Woolen Mills, Inc.; increased capital to $40,000; building addition 40 by 80 ft.; to increase production.
Seymour. Seymour Woolen Factory; built new boiler room and stack.

KENTUCKY.

Mayfield. Mayfield Woolen Mills; added 1 set of cards and equivalent spinning equipment.

MAINE.

Corinna. Corinna Mfg. Co.; added 6 looms, 1 mule, 1 napper.
Dexter. Morrison Woolen Co.; added 6 new looms, motor driven.
Madison. Indian Spring Mill (Am. Woolen Co.); built 2-story addition, 50 feet long; rearranged equipment; added 4 sets, 16 looms.
North Monmouth. Winthrop Mills Co.; erected new electric power plant.
Sanford. Goodall Worsted Co.; built new dyehouse 187 by 89 ft., 3 stories; new weaving mill 150 by 60 ft., 2 stories; equipment increased.
Skowhegan. Maine Spinning Co.; added new spinning frames bringing equipment up to 5,000 spindles..

MASSACHUSETTS.

Boston. Middlebrook Wool Combing Co.; installed 7 new combs and 6 new cards; also automatic sprinkler system.
Charlton City. Aldrich Mfg. Co.; built new picker house, 24 by 64 ft.
Dalton. Sawyer-Regan & Co.; started annex and increased number of employes; also built addition to plant.
Franklin. Franklin Yarn Co.; built addition 75 by 110 ft., and installed new carding and spinning equipment, increasing output about 15 per cent.
Graniteville. Abbot Worsted Co.; installed new twisting frames.
Holyoke. Farr Alpaca Co.; capital increased from $2,400,000 to $7,200,000; building enlargement to dyehouse.
Holyoke. Germania Mills; building new dyehouse and power plant.
Hudson. Hudson Worsted Co.; installed new drying and finishing equipment.
Rochdale. Carlton, E. G. & Sons; built new weaving mill, 160 by 60 ft.; adding some new looms; will increase yarn department.
Uxbridge. Uxbridge Worsted Co.; built enlargement, 100 by 25 feet, to dyeing and finishing departments.
Webster. Slater, S., & Sons, Inc.; new dyehouse 1-story, 78 by 172 ft.; new scouring, drying and yarn mill, 4 stories, 175 by 132 ft.

NEW HAMPSHIRE.

Ashland. Squam Lake Woolen Co.; completed extensive alterations and improvements.
Manchester. Amoskeag Mfg. Co.; worsted department; built 1-story addition, 160 by 72 ft. and equipped for carding and preparing.

NEW JERSEY.

Bloomfield. Oakes, Thomas & Co.; building enlargement to weaving department, 70 by 70 ft.
Bound Brook. Bound Brook Woolen Mills; built new dyehouse; increased power equipment; added new twisting machinery.
Passaic. Botany Worsted Mills; built new mill, 194 by 134 ft.: 5 stories, to increase facilities for manufacturing dress goods, men's wear and worsted yarns.
Passaic. Forstmann & Huffmann Co.; made extensive additions and improvements.
Passaic. Hird,, Samuel, & Sons, Inc.; built new weave shed with space for 250 looms; also new storage warehouse; increased equipment.
Trenton. Princeton Worsted Mills; built new power house and laboratory; changed to electric power.

NEW YORK.

Amsterdam. McCleary,, Wallin & Crouse; erected large new power house.
Amsterdam. Sanford, Stephen, & Sons, Inc.; erected large new dyehouse; remodeled repair shop.
Auburn. Auburn Woolen Co.; building addition enabling them to install 4 more sets of cards; increasing power plant.
Gloversville. Parkhurst, E. S., Co., Inc.; $200,000; new company succeeding E. S. Parkhurst & Co.; erected new plant to replace one destroyed by fire.
Jamestown. Acme Worsted Mills; erected new finishing building 43 by 123 ft., two stories; new dyehouse, 43 by 123 ft., one story.
Jamestown. Odsonia Wstd. Mills (Cleveland Wstd. Mills Co.); building 2-story addition; new equipment to be installed.
Montgomery. Crabtree, Wm. & Sons; built new dyehouse, 17 by 72 ft.
Newburgh. Stroock Plush Co.; building new steel and concrete mill containing 52,000 sq. ft. manufacturing space.
Rochester. Allen Woolen Mills; built addition to weave room; added 8 looms and other equipment.

OHIO.

Cleveland. Cleveland Wstd. Mills Co.; increased authorized capital stock from $3,000,000 to $10,000,000; $1,500,000 of the new stock issued and a new 6-story manufacturing and recreation building erected at Cleveland; a new 4-story finishing mill at Ravenna; additions to other plants of this company.

Cleveland. National Woolen Co.; Wool Shoddy, Extracts and Waste; built addition and installed 1 garnett, 2 rag pickers, 1 wool mixer and 4 sets cards.

PENNSYLVANIA.

Philadelphia. Andrews Mills Co.; installed new machinery for dyeing silk piece goods; added a number of looms for weaving men's wear and dress goods.

Philadelphia. Cameron, A. J., & Co.; worsted yarns; built new 3-story manufacturing building and new 1-story storage house.

Philadelphia. Dobson, J. & J., Inc.; built 3-story addition for combing department; added 50 plush looms.

Philadelphia. Fetterolf, H. G., Co.; carpets and rugs; built new mill at Stenton Ave. and London St., and increased equipment.

Philadelphia. Read, W. F., & Sons; added 16 looms for weaving wool and silk dress goods.

Philadelphia. Rowland Worsted Mills (Cleveland Worsted Mills Co.); purchased mill formerly operated by Biswanger & Sons Co.; to equip as worsted yarn mill after making alterations.

Lenni Mills. Yorkshire Wstd. Mills; built new dyehouse, 18 by 100 feet; also new 2-story brick office building.

RHODE ISLAND.

Davisville. Davisville Woolen Co.; new construction and improvements in dyeing department.

Glendale. Orrell Mills, Inc.; built new piece dyehouse.

Nasonville. W. & K. Company; worsteds; 200 looms; took over Nasonville Wln. Mill; built additions and installed new equipment.

Providence. Colored Wstd. Mill; worsted yarns; built new 3-story addition, 200 by 48 feet; equipped with spinning, twisting and drying equipment.

Providence. Colwell Wstd. Mills; installed 12 new looms and new winders.

Providence. Langford Worsted Mills; Cleveland Wstd. Mills Co.; added 50 new looms.

Washington. Livingston Worsted Co.; built new weave shed, 200 by 65 feet; and a second new building, 110 by 96 feet; added 24 looms.

Woonsocket. Dunn Wstd. Mills; built new dyehouse and wet finishing room, 90 by 210 feet; addition to power house, 50 by 60 feet.

Woonsocket. Falls Yarn Mills; $35,000; A. D. Adams, pres.; Joseph Cavedon, treas.; John Cavedon, agt.; Woolen, Merino, Cotton and Silk Noil Yarns; 6 sets; 4,000 spindles; electric; sell direct and through H. R. Shirley, Philadelphia, and A. D. Adams & Co., Boston; stock bought by A. D. Adams & Co., 263 Summer St., Boston.

WISCONSIN.

Portage. Portage Woolen Mill; Van Aernan & Rumpf, props.; Wool Battings, Tailor's Paddings, Mattress Stocks, etc.; to enlarge and manufacture yarns.

CANADA.

Ontario, Lindsay. Horn Bros. Woolen Co., Ltd.; capital stock increased to $190,000; space increased and new equipment installed including 2 mules, a number of fancy wide looms, new dyeing equipment, etc.

Ontario, Toronto. Toronto Carpet Mfg. Co.; installed 20 looms for weaving blankets.

KNIT.

ALABAMA.

Anniston. Anniston Knitting Mills Co.; built additions and doubled capacity; added new dyeing dept.

CONNECTICUT.

Windsor Locks. Medlicott Co.; built new brick dyehouse replacing old wooden structure.

GEORGIA.

Grantville. Grantville Hosiery Mills; built addition, 220 by 100 feet, and enlarged power plant; added 5,000 spindles.

Rome. Rome Hosiery Mills; built 2-story addition, 120 by 64 feet; installed 100 new knitting machines and dyeing and finishing machinery.

ILLINOIS.

Belleville. Belleville Hosiery Mills; built 2-story brick addition and increased all departments.

Belleville. St. Clair Hosiery Mills; increased capital to $25,000; plant increased.

Chicago. Child's Welfare Garment Co.; built new mill at 3312 W. Ravenswood Ave.; increased production.

Kankakee. Paramount Knitting Co.; built new 8-story building, 50 by 145 feet, for storehouse.

Rockford. Forest City Knitting Co.; capital increased from $60,000 to $120,000; plant enlarged.

INDIANA.

Fort Wayne. Wayne Ktg. Mills; added new bleaching equipment.

MARYLAND.

Frostburg. Parker Hos. Mill & Dye Works; equipment increased to 60 ktg. mch., 63 ribbers and 25 loopers.

MASSACHUSETTS.

Boston. Peerless Ktg. Mills Co.; erected a 2-story brick addition, 40 by 100 feet; added 40 ktg. machines and 50 sewing machines.

Chicopee. Knit Goods Specialty Co.; built new 2-story mill, 40 by 80 feet, on Paine St.

Stoughton. Stretton Chas., & Son Co.; built 2-story addition to bleaching and dyeing department.

Waltham. American Knitting Co.; Sweaters and Bathing Suits; took over larger building and moved into new quarters.

MICHIGAN.

Rochester. Western Knitting Mills; added manufacture of knit cloth and installed equipment for this new line.

MINNESOTA.

Minneapolis. Northwestern Knitting Co.; built $250,000 addition and installed equipment to give employment to 200 additional hands; addition 8 stories, 300 by 100 feet.

MISSOURI.

Kansas City. Goodenow-Brookfield Ktg. Co.; Underwear and Sweaters; increased capital stock to $100,000; doubled capacity.

NEW YORK.

Amsterdam. Blood Knitting Co.; added 18 knitting machines to make new line of men's Balbriggan underwear; added new combers in yarn dept. and making combed yarns.

Amsterdam. Chalmers Knitting Co.; bought adjoining property on which new mill will be erected in near future; building private dock on barge canal.

Broadalbin. Broadalbin Ktg. Co., Ltd.; erected additions and increased capacity 50 per cent.

Dunkirk. American Glove Co.; erected new mill and largely increased output; established new branch at Brantford, Ont.

Gloversville. Fulton County Silk Mills, Inc.; built new 3-story mill and largely increased output.

New Hartford. Olympian Knit Goods Co.; built new 4-story mill, 154 by 50 feet; built new boiler house.

NORTH CAROLINA.

Albemarle. Wiscasset Mills Co.; built additions, rearranged equipment and installed new equipment removing necessity for night work.

Durham. Durham Hosiery Mills, Inc.; built new yarn mill; added several hundred knitting machines to equipment.

Flat Rock. Skyland Hosiery Co.; increased capital to $200,000; added 50 knitting machines.

Winston-Salem. Hanes, P. H., Knitting Co.; increased authorized capital stock from $600,000 to $2,000,000; building new box factory; other increases planned.

NORTH DAKOTA.

Fargo. Fargo Knitting Mills; $100,000 (authorized) Morton Page, pres.; Alex. Stern, treas.; M. H. Aved, supt. and buyer; Sweater Coats and Knit Goods; capacity dubled.

PENNSYLVANIA.

Philadelphia.. Brown, Wm., Co.; equipped another floor with 20-section full fashioned knitting machines.

Philadelphia. Wexler Knitting Mills; removed from 61 No. 2d St. to 29 No. 2d St.; added 12 new knitters and other equipment.

Greencastle. Windsor Ktg. Mills; added 50 knitting machines; main plant at Hagerstown, Md., burned.

Orwigsburg. Excelsior Knitting Co.; Ladies' Union Suits; erected new 2-story building, 28 by 40 feet.
Reading. Ammon, E. R.; Women's Cotton Hosiery; added dyeing, bleaching and finishing equipment.
Reading. Davies Hosiery Co.; build new 3-story addition new boiler house; added new line of silk hosiery; installed 148 new knitting machines.
Reading. Glasser Hosiery Co., Inc.; 13th & Mulberry St.; $50,000; Edw. Glasser, pres., treas. and buyer; Cotton, Lisle and Silk Half Hose; 225 knitting machines; added 100 knitting machines.
Royersford. Progressive Ktg. Mills; Ladies', Misses' and Children's Underwear; built new 2-story mill, 52 by 155 feet.
Terre Hill. Terre Hill Hosiery Co.; $15,000; R. B. Davis, pres.; Warren E. Weaver, treas.; T. L. Seidel, mgr. and buyer; Seamless Hosiery; 30 knitting machines, 9 ribbers, 5 sewing machines, steam; enlarged capacity and expect to build new mill early in 1915.

TENNESSEE.

So. Pittsburg. Aycock Hosiery Mills; built new dyeing and finishing department; enlargements and improvements in other departments.

VIRGINIA.

Portsmouth. Parker Hos. Mill & Dye Wks.; added 20 new machines.

WISCONSIN.

Delavan. Bradley Knitting Co.; added 2-set woolen yarn plant and yarn dyeing department.
Mauston. Portage Hosiery Co.; built new addition and are doubling yarn spinning and knitting capacity.
Milwaukee. Holeproof Hosiery Co.; added dept. for manufacture of Silk Gloves.
Sheboygan. Hand Knit Hosiery Co.; building new 3-story mill, 60 by 100 feet; capacity increased.

CANADA.

New Brunswick, Moncton. Humphrey Unshrinkable Underwear, Ltd.; added new machinery for manufacturing lines of woolen socks.
Ontario, Appleton. Caldwell, Boyd & Co., Ltd.; added new hosiery knitting machinery.
Ontario, Toronto. Reliance Knitting Co., Ltd.; added hosiery manufacturing department.
Ontario, Toronto. Simpson & Sons, Ltd., Jos.; added 5 new sets of cards; also hosiery knitting machinery.

SILK.

CONNECTICUT.

Norwich. Brainerd & Armstrong Co.; rearranged plant and added 56 box looms.
Shelton. Blumenthal, Sidney & Co., Inc.; purchased property of the Specialty Weaving Co.; put plant on permanent day and night schedule.
South Manchester. Cheney Bros.; built new weave shed, 150 by 321 feet; new yarn dyehouse, 80 by 326 feet; added new printing machinery.

ILLINOIS.

Chicago. Heineman, Oscar & Co.; 2701 Armitage Ave.; built addition with 90,000 sq. feet floor space; doubled capacity.

MARYLAND.

Hagerstown. Cromer Bros.; Silk Ribbons; erected additions and largely increased capacity.

MASSACHUSETTS.

Taunton. Dery, D. G.; installed 50 new looms.

NEW JERSEY.

Passaic. Villa Stearns Co.; leased larger mill formerly occupied by U. S. Finishing Co.; increased equipment.

NEW YORK.

Gloversville. Normandie Silk Mills, Inc.; $40,000; Geo. B. Rowland, pres.; James A. Batty, treas.; Louis E. Winnie, mgr.; built new mill for weaving Glove Silk Cloth and started annex for making gloves.

PENNSYLVANIA.

Philadelphia. Campbell Co.; Silk Cords, Tassels, etc.; erected new mill at 5629 Edmund St.
Easton. Haytock-Cronemeyer Co.; Broad Silks; built addition, 50 by 200 feet, for dyeing and finishing plant. (Formerly Easton Silk Co.)
Easton. Smith, Alexander & Son; Silk Warpers and Winders on commission; built new mill at corner Centre and Glendale Sts. (South Side); increased capacity.
Hazleton. Duplex Silk Co.; built new 1-story mill, 90 by 198 feet.
Lewistown. Susquehanna Silk Mills; built new addition, 60 by 300 feet; equipment increased.
Marcus Hook. American Viscose Co.; erected new spinning mill; also built other enlargements.

VIRGINIA.

Charlottesville. Charlottesville Silk Mills; Broad Silks; added 20 looms and preparatory equipment, increasing capacity to 1,000 yards daily.

MISCELLANEOUS.

CONNECTICUT.

New London. Thames Dyeing & Bleaching Co.; building a new mill, 100 by 50 feet, doubling the capacity.

MASSACHUSETTS.

East Webster. Slater, S., Sons, Inc.; building a new 4-story storehouse, 78 by 92 feet.
Fall River. American Printing Co.; installed electric power for operation of machinery.
Fall River. Fall River Bleachery; installed new turbine and rearranged steam system at cost of $35,000.
Lowell. Lowell Bleachery; built extension to starch room; built new boiler house, 100 by 60 feet, and leased mill building owned by Hamilton Mfg. Co., containing 35,000 square feet of floor space, to be used for cutting up, hemming and packing various kinds of towels; will install tenter and napping machinery.
Lowell. Waterhead Mills, Inc.; built new boiler house and coal pocket.
Millbury. Windle, W. W., Co.; erecting new 2-story building, 198 feet long; installed new drying machine.
North Chelmsford. Lowell Textile Co.; Towels and Crashes; installed 18 new looms.

MICHIGAN.

Port Huron. Summers Linen Co.; established large plant to replace burned mill and consolidated Milford, N. H., branch with Port Huron plant.

NEW JERSEY.

Paterson. Oriental Silk Printing Co.; Belmont Ave., built new 1-story mill, 40 by 100 feet, and equipped for dyeing silk and silk mixed goods.
Paterson. Royal Piece Dyeing Co.; name changed from Cadgene Silk D. & F. Co.; erected two new mills covering 32,000 square feet.
Paterson. U. S. Conditioning & Testing Co.; 220 Ellison St.; expanded Paterson branch into fully equipped conditioning house.

NEW YORK.

Lockport. Niagara Textile Co.; Towels and Crashes; built new 2-story addition, 65 by 175 feet; increased equipment and added new bleach house.
Minetto. The Columbia Mills, Inc.; successors to Minetto-Meriden Co.; building new 12,000 h. p. hydro-electric power plant.

PENNSYLVANIA.

Philadelphia. Amrein Dyeing Co., Inc.; installed new equipment, increasing capacity 300 pounds per day.
Bailey, John T., Co.; Rope and Twine; expended $50,000 for enlargements and improvements.
Philadelphia. Foster, J. R. & Sons; Second and Lippincott Sts.; Dyers and Finishers; building additions, 54 by 141 feet, one story; and 53 by 56 feet, 3 stories.
Hellwig Silk Dyeing Co.; erected additions at cost of $65,000.
Universal Dye Works; purchased building at Tackawanna and Torresdale Aves., Frankford; increasing capacity.

RHODE ISLAND.

Providence. Franklin Process Co.; Dyeing of Yarns by Franklin process; built 1-story addition, 100 by 60 feet.

WISCONSIN.

Baraboo. McArthur, Geo. & Sons; built new mill, 80 by 40 feet; equipped to manufacture Turkish towels and crashes.

CANADA.

Quebec, Coaticook. Niedner's, Chas. Sons; removed Canadian branch from Montreal to Coaticook.

PENNSYLVANIA UNDERWEAR MANUFACTURERS ASSOCIATION

This organization of the Pennsylvania underwear manufacturers held a well attended meeting at Reading on November 14, interest having been stimulated by the disturbance of trade conditions and the efforts made by buyers to secure reductions in prices of goods for which contracts had been placed earlier in the season. Edward Blood, Sr., called the meeting to order. A letter regarding price reductions, which had been authorized at the recent balbriggan conference, was read and approved. A number of manufacturers present gave their experiences with buyers who had not only demanded a reduction in prices named in old contracts, but had threatened to cancel orders if the reductions were not conceded. All present were in favor of determined resistance to this movement on the part of the buyers. Yarn spinners were holding knitters to their contracts and it was imperative that knitters should adopt the same policy with the buyers of their goods.

Charles E. Leippe, president of the National Association of Hosiery and Underwear Manufacturers, made an address in which he took a strong stand against yielding to the demands of buyers for a change in the terms of their contracts. He congratulated the association on the result of the election, which tended to greater business stability. He urged knitting manufacturers to avoid price cutting as being demoralizing to the trade. Thirty jobbers in different parts of the country were named during the discussion as having demanded a reduction in prices of goods on old contracts.

The following resolution was adopted as expressing the sentiment of the meeting:

Whereas, Certain circular letters have been sent out by different jobbers asking for reductions which in no wise help the consumer, this association wishes to go on record by adopting the following resolution unanimously. Therefore be it

Resolved, That this association will not reduce prices on orders placed nor accept cancellations.

Following is a list of the manufacturers present:

Walter Allen, Frank Allen, Allen Knitting Mills Co., Philadelphia; John D. Berger, Harry L. Berger, Berger Bros., Schuylkill Haven, Pa.; Edward Blood, Sr., J. Blood & Bro., Philadelphia; H. C. Bolich, Allentown, Pa.; R. P. Brown, Reading (Pa.), Underwear Co.; C. B. Carter, secretary, National Association of Hosiery and Underwear Manufacturers, Philadelphia; Wm. P. Davis, Cheltenham Knitting Co., Germantown, Philadelphia; Guy H. Diefenderfer, Auburn (Pa.), Knitting Mills; J. Fichthorn, Geo. W. Hefflefinger, West Lawn Knitting Mill; A. J. Fink, Hamburg (Pa.), Knitting Mills; John Hock, Harry Nagle, John Hock Knitting Mills, Pottsville, Pa.; H. Hornberger, Mohnton (Pa.), Knitting Mills; Chas. E. Leippe, president of the National Association of Hosiery and Underwear Manufacturers, Reading (Pa.), Knitting Mills; Walter F. Meck, Meck & Co., Schuylkill Haven, Pa.; R. W. Rems, J. D. Rems, Jno. Rems & Sons, Macungie, Pa.; J. A. Scharadin, Orwigsburg (Pa.), Knitting Mills; Miltch Schwenk, Schwenk & Co., Schuylkill Haven, Pa.; G. G. Shock, Stein & Shock, Pottsville, Pa.; L. R. Seidell, Deisher Knitting Mills, Kutztown, Pa.; J. M. Thornton, Shearer Mfg. Co., Harrisburg, Pa.; H. V. Wentzel, Reading, Pa.

THE HOME MARKET CLUB

The annual meeting of the Home Market Club was held on Nov. 18 for the election of officers and other business. President W. B. H. Dowse was reelected.

The new names added to the list of vice-presidents are: A. G. Pollard, Lowell; Edwin A. Cady, Warren, R. I.; Frank L. Carpenter, Fall River; Frederick E. Kip, Bridgeport, Conn.; Leonard B. Nichols, Boston.

The following named members of the executive committee were elected: Franklin W. Hobbs, Boston; R. P. Snelling, Newton Upper Falls; William M. Butler, New Bedford; Nelson Curtis, Boston; Horace A. Carter, Needham Heights.

The directors elected for the term expiring in 1917 were: B. H. Bristow Draper, Hopedale; W. H. Chase, Leominster; Walter E. Parker, Lawrence, Charles Cheney, South Manchester, Conn.; W. H. Pridee, Pembroke; Louis B. Goodall, Sanford, Me.; George S. Colton, Easthampton; Richard S. Russell, North Andover; Louis A. Coolidge, Natick.

President Dowse's address was as follows:

In his letter to Majority Leader Underwood of the House of Representatives written in the closing days of a protracted session of Congress, President Wilson euloziged the legislation which had been enacted and expressed the "very complete and very confident belief that the country would endorse the legislative program of the administration.

A few weeks later the country expressed its sober judgment at the polls, and a storm of protest was recorded which shows that the President was not in intimate touch with the political weather bureau. It was only in the rock-ribbed strongholds of his party, or in those districts where divided opposition made an effective protest impossible, that the appeals of the administration for an indorsement proved successful.

In New Hampshire both congressional districts were won by protectionists from zealous supporters of the administration, and a bitter fight to defeat an able protectionist Senator completely failed. In Massachusetts there was a gain of four Congressmen; in Rhode Island, one; in Connecticut, five, a clean sweep and a complete turnover; in New York, 10; in New Jersey, President Wilson's own State, five, the President's own district electing a Republican instead of a Democrat. In Pennsylvania there was a gain of 12 Congressmen; in Ohio, 9, and in Illinois, 13. A gain of 80 protectionist Congressmen is the administration's plea for an indorsement of the Underwood-Wilson tariff. It was the tariff issue that made these gains possible. "Our victory was a rebuke to the destruction of protection," is the comment of an Ohio Congressman-elect. "I made my fight from a tariff standpoint from beginning to end," says a Massachusetts Congressman. Another Massachusetts Congressman says: "I find local illustrations of tariff effects the strongest campaign argument."

In Pennsylvania a victory was won for protection by a quarter of a million votes. The protectionist vote in the Congressional districts of Massachusetts amounted to 250,000, compared with 187,000 administration votes. On the basis of the Congressional vote for the entire country, protectionists would have won the electoral college by a majority of 64 and elected a protectionist President. On the basis of the votes of Nov. 3, all of the States except the solid South, Kansas, California, Colorado, Missouri, Nebraska, Oklahoma and West Virginia would have gone Republican.

As a result of the election courage and confidence have taken the place of doubt and depression, and the outlook for American business is brighter today than it has been at any time since President Wilson signed the new tariff law. The country has rejected the tariff for revenue only policy and has served notice that it stands firmly for the American policy of protection, for the American market, for American capital and labor, for full employment and the best possible wages. Because of the conviction that the interests of American business men and American working men will become, at the first opportunity, the paramount concern of national legislation, the whole business atmosphere has changed and the clouds have given way to sunshine.

If peace can happily be restored throughout the world, and the warring nations turn from destruction to construction, domestic trade and world commerce will revive in full measure, and, with wiser policies in force, there will be work for hands now idle, and the busy hum of industry will again be heard throughout the land.

Secretary Marvin said:

A sudden and revolutionary change in that policy was attempted by the administration which assumed control of the government on March 4, 1913. In place of the old independence the doctrines of a new freedom was proclaimed. The experiment was tried. A new tariff law was enacted and the policy of Washington was repealed by the theories of Wilson.

For a little over a year the country was given an opportunity to test this change of policy. The witnesses against the justice and the wisdom of the change were an army of the unemployed. More men were out of work in the United States than there were in the armies engaged in the early operations of the European war. Idle mills and factories, reduced dividends and curtailed production bore emphatic and unanswered testimony. An increase of importations of over $100,000,000; a decrease in exports of $60,000,000; a change from a favorable to an unfavorable balance of trade; a deficiency in the revenue and an enormous increase in direct taxation gave evidence against the new tariff policy.

Long before the war was declared the accumulating testimony of the melancholy failure of the Underwood-Wilson tariff had made a profound impression upon the country. It was hoped in some quarters and feared in others that the war would obscure the issue of the November election. But the people were not blinded by "that fierce light which beats upon a throne"; nor deluded by the plausible arguments of Chautauqua orators. They had prepared their own brief. They needed no professional advice.

The proceedings were enlivened by the reading of the following letter from Joseph Walker, of Brookline, a member of the Club and Progressive candidate for Governor of Massachusetts in the recent campaign:

I have maintained my connection with the club because I believe in the principle of protection. I have differed with the club in the method of its application.

To establish firmly a sound tariff policy is the greatest economic problem now before the American people. There are two essential elements in a tariff law if it is to serve the best interests of the American people; first, it must be adequate; second, it must be permanent. The latter is quite as important to the prosperity of the country as the former. How can we establish a policy that shall assure permanent, adequate tariff rates? That is the problem.

I do not believe that the tariff can ever be taken out of politics, because there are too many who do not believe in the fundamental principle of protection, but I do believe that if the problem is properly handled, the protectionists can command an overwhelming majority of the American people both North and South. Thus the tariff will cease to be the mere football of party politics.

First, let all protectionists unite in the announcement that they stand for a tariff system that shall be adequate and not excessive, fair and not favorable to any section of the country or to any special interest. Let us make it plain that the system is to be an American system in which every industry, great and small, shall have deliberate and careful consideration with no favoritism. Let us recognize the fact that a tariff law is intricate and difficult to frame in the first place and that it is affected by changing conditions and so must from time to time be adjusted to meet those conditions.

By this time it must be obvious to the business interests of the country that successive political general revisions of the tariff, following every change in party administration, are disastrous to

business prosperity and a serious handicap to our industrial development. The American tariff system ought not to depend on the maintenance of one political party in power. I believe that a large part of the Democratic party as well as the Republican and Progressive parties will stand for an American tariff policy, if we go about its establishment in the right way. What is that way?

First, let us announce the protective principle as an American—not merely a Republican—principle; second, let us recognize the existing tariff as the basis; if, when we had the chance, we had taken the Dingley law as such a basis and gone about the revision in a non-political, scientific spirit, we would have been saved the agony of the last few years; third, let us stand for the establishment of a permanent, non-partisan board of experts to examine the tariff rates in a scientific, non-political spirit; fourth, let us announce that no tariff rate will be maintained that cannot stand the light of such an investigation; fifth, let us stand only for such increases as are demonstrated to be necessary for reasonable protection, and stand equally for the reduction of such rates as are demonstrated to be excessive.

I do not feel that these are mere glittering generalities. I am sure that this is common sense. With the old leaders returned to power in Congress, I fear a repetition of the old mistakes.

All the facts bearing on the tariff should be taken into account by such a board, not only the difference in the cost of production at home and abroad, so far as this can be ascertained, but the volume of imports, the adaptability of this country for any given industry and all other facts.

When we can once convince the country that we really stand for a scientific tariff that shall be adequate and not excessive, fair and not favorable to any section of the country or to any special interest, then, and not till then can we establish a permanent American tariff system. Such a system is essential to real business prosperity and steady industrial development.

Along with this American tariff system must go a sound railroad policy which will assure adequate rates for honestly managed roads, such rates as will attract private capital for railroad maintenance and development; also a sound business corporation policy that shall permit and encourage a "big" business alongside of "little" business.

If the Home Market Club takes the right attitude on this subject now, it can exercise a great influence in getting this country back onto a sound business basis. We need above all things now a restoration of confidence. Such confidence can be permanently maintained not by extreme reaction but by wise progressive action.

In reply to Mr. Walker's letter, John C. Hopewell, of L. C. Chase & Co., Boston, read the following statement:

I listened to the reading of Mr. Walker's letter with a good deal of interest. He has always advocated the policy of protection and we welcome his plea for united action on the part of protectionists. It is a consummation devoutly to be wished.

If it is true, as he says, and I agree with him, that the greatest economic problem now before the American people is to establish firmly a sound economic policy, it is to be hoped that we have seen the last election in this State and in the nation at which the believers in protection are divided.

This club has advocated protection as the American tariff policy and not as a partisan policy and we welcome the cooperation of all protectionists in establishing a protective tariff that shall be adequate and reasonable and not excessive. We recognize that the Republican party has twice appointed a tariff commission, once in 1882 under President Arthur, and again in 1909 under President Taft; but a House of Representatives consisting of 435 members and a Senate of 96 members have an idea that they have certain rights and duties under the Constitution and so far have shown that they have little idea of surrendering these rights and duties to a commission.

However, a commission to investigate facts and conditions could undoubtedly perform a valuable service and we would favor the appointment of such a commission to assist the Ways and Means Committee and Finance Committee in their burdensome labors.

We need, as Mr. Walker says, a restoration of confidence. We need also a cessation of hostilities. We need to establish the American policy of adequate protection, and we can do it if protectionists will stand shoulder to shoulder and fight for their principles as comrades and allies.

The following resolutions were passed:

The Home Market Club at its annual meeting in Boston sends greeting to the Home Market Association of Canada and expresses the sincere hope that the war which is calling to the defence of the interests of the British Empire so many loyal Canadians, may be speedily terminated and that the great industries of the Dominion may soon resume their steady course of development under an uninterrupted reign of peace.

Resolved: That we welcome the cooperation of all believers in a reasonable protective tariff and we urge, in the interest of national welfare and progress, that all protectionists unite to reestablish that American policy under which the country developed and prospered and the highest wages in the world were paid. This nation entertains no martial ambition but we all want this country to be the best in which to labor and to live. This result can be achieved by observing the laws of intelligent self-interest and wisely guarding the welfare of American citizens at home and abroad.

Latest figures of the number of sheep in New South Wales issued by the Government Statistician give a total of 30,466,631 grown sheep and 9,375,887 lambs. These figures, compared with the returns a year previously, show a falling off in grown sheep of 2,715,,-846, and an increase in lambs of 3,513,862 head.

Correspondence and Notes

UPON TEXTILE TOPICS AT HOME AND ABROAD

DEGREASING WOOL

BY CAWDOR

A Yorkshire firm of wool scourers are about to erect a large plant in which the grease or fat will be extracted from the wool in its raw state, before it goes to the scouring machine. The process is now in operation on a small scale. The grease is removed by a cleaning process in which petrol is the important factor. The fat and the dirt are taken out, and the wool is then washed in the ordinary way. It is claimed that 80 per cent. of the natural fat is extracted, and that the bulk of the petrol is recovered.

This is not the first attempt that has been made, and although up to the present nothing has yet been found to beat soft water

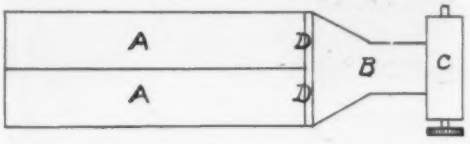

FIG. 1

and a good olive soap, something has been learned, even if the enterprise has not been successful. Many attempts have been made to supersede the ordinary soap used for scouring.

The most notable attempts to supersede ordinary soap for scouring purposes have been made by Thompson and Schaar. Their processes were similar in the ingredients used. Schaar not only employed a new scouring material, but also made a change in the machinery. In place of potash and olive oil, the following mixture was used:

Starch	lbs.	21
Pearl ash	lb.	16
Alkali	lbs.	260
Irish moss	lbs.	12
Resin	lbs.	12
Borax	lbs.	5
Sal Ammoniac	lbs. 3 ozs.	12
Cloth oil	gals.	3
Ammonia	pts.	12
Turpentine	pts.	6
Water	gals.	30

Boil all together and strain through a fine sieve.

A large iron drum, set on end is packed tight with the wool to be scoured to within about 6 inches of the top, the material held down by a coarse mesh wire lid. Cold water is forced in at the base of the drum and working upwards frees the wool from all

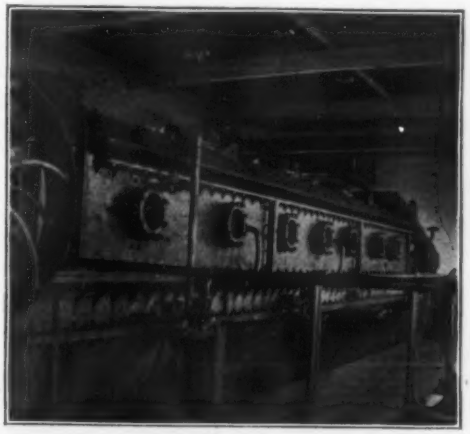

FIG. 2

loose dirt, overflowing into the drain until it runs clear. It was found that instead of allowing this rinsing liquor to run to waste, a paying quantity of the free potash could be recovered. The steeping process was adopted by others who continued scouring in the ordinary way. The wool was then lifted out of the drums into a double wash bowl, Fig. 1, a small quantity of the mixture being added, and the sud worked at about 90° F. A, Fig. 1, shows twin doors closed by doors, D, which can be moved separately by chain or overhead pulley. B, shows the bowl, and C, the squeeze rollers. While one side of the bowl is being emptied the wool in the other is thoroughly steeped. A slight agitation served to separate all foreign matter from the fiber. The second bowl liquor stood at 100° F., with enough of the mixture

to make a fairly strong solution. The third bowl was used for rinsing at 110° F., very little of the scouring mixture being added.

The wool passed through this process and was very free, open and of good color, with a soft handle, worked well in carding and seemed to accomplish all that was required. After a time bad effects were apparent. Even after ordinary backwashing some of the scouring mixture was left on the fibers, with the result that the wire on the cards, and the pins in the circles showed signs of corrosion and became brittle. The cards, circles and fallers suffered so much that the system had to be abandoned. The experience with this method showed that steeping freed the superfluous potash, as well as loosened the dirt, and that with reduced agitation in the liquor the wool was freer and carded with less breakage of fiber, while the

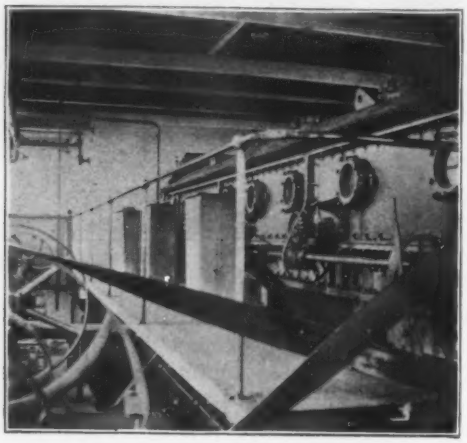

FIG. 3. SIDE VIEW OF SCOURING MACHINE

gradual increase of temperature from the first bowl to the third made the wool less tender than under the old system, where the liquor in the first bowl was at the highest temperature.

A Nottingham process of scouring without soap or water came near being a success. Naphtha was used for scouring, the wool being passed through a series of naphtha baths. Owing to its inflammable nature all the operations, including drying, had to be conducted through a large airtight construction to prevent the fumes from getting into the room where the scouring was done. The wool was packed on the machine by a ramming process and served as a seal. It could not be touched from the outside, and could be seen only through the port windows shown in Figs. 2 and 3. Fig. 4 shows the naphtha storage tanks in the open air.

The machine itself was built of heavy iron plates, the scouring parts, Figs. 2 and 3,

FIG. 4. NAPHTHA STORAGE TANKS

being placed on top of the drying apparatus, Figs. 5 and 6. Fig. 2 is a side view of the scourer on the observation side. The wool is fed in on a sheet at the extreme right. Four pairs of squeeze rollers are enclosed in the case. An inverted pyramid between each pair of rolls holds the liquor through which the wool passes. A grid set a little lower than the rollers prevents the wool getting out of reach of the forks, while the bottom part of the pyramid serves as a receptacle for the dirt and grease. Rapidly moving flappers beat the wool down into the liquor to prevent the wool from clinging to the rollers. The naphtha is forced in a spray into the last bowl, playing directly on the wool as it leaves the squeeze rollers. The naphtha is passed by small centrifugal pumps from the last tank, meeting the wool, until it gets into the first bowl. When charged with dirt and grease it is run off. The naphtha is recovered by evaporation in specially constructed cylinders. The residuum is taken

away in cakes. Fig. 3 shows the gearing on the driving side with one of the covers of the roller gear removed. A worm on a rapidly revolving side shaft drives the rollers, the belt on the pulley actuating the flappers.

Fig. 5 shows the dryer which is directly under the scouring apparatus, Fig. 3. The wool dropping down from the scourer is conveyed by an oscillating platform to the far end, where it drops to a lower platform moving in the opposite direction, and is returned to the same end as which it entered. Fig. 6 shows the wool as it leaves the dryer and is taken up by a conveyor to the packing shed. There is no doubt of the possibility of thoroughly degreasing and scouring wool by naptha without the use of soap and

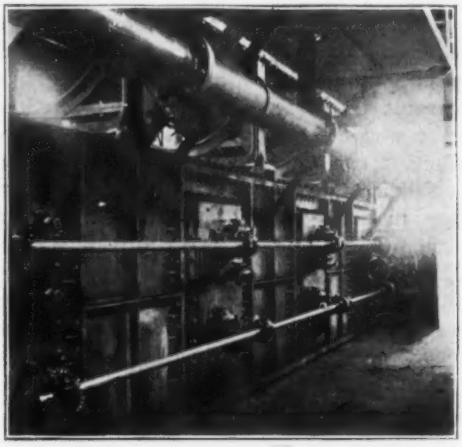

FIG. 5 A DRYING MACHINE.

water. But there are many drawbacks. In the first place, the machine is very cumbersome and requires a large amount of power. The mechanism is complicated, and hard to get at if anything goes wrong. When this happens all the naphtha must be run out of the tanks, and the fumes driven away before it is safe for anyone to get into the machine. This has to be done if it is only a screw that has worked loose. This means a great loss of time. Again, the necessity of getting all the surplus naphtha out of the wool during the drying process, means that the machine can scour only at the speed at which the dryer does its share of the work. Lastly, comes the danger of explosion. The fumes get into the workroom and the sparking of an electric wire may be enough to cause an explosion. The wool is well scoured and works freely. Although naphtha is dangerous stuff to use, yet with some modifications the process may play an important part in wool scouring in the near future. At least

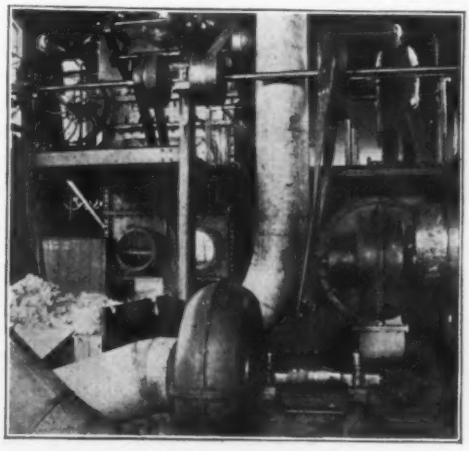

FIG. 6 SHOWING THE WOOL AS IT LEAVES THE DRYER AND IS TAKEN TO THE PACKING SHED.

one maker of domestic soaps for woolens uses naphtha as one of the ingredients and possibly some of our inventors may, through its use in a modified form, find some cheaper and more effective scouring process than the ordinary method with olive or cottonseed soap, which is in general use today.

GERMAN SHODDY IN WAR TIME

From Zeitschrift fuer gesamte Textil-Industrie

Although the German shoddy industry has not escaped the disturbing effects of war, it has been partially spared by reason of the stopping of imports from foreign countries. The shoddy industry is the better able to supply the domestic demand because the principal export markets for German rags, Russia, England and Austria, have been lost by reason of the war. Although shoddy is used only for mixing purposes in the manufacture of military goods, blankets and other fabrics, the demand for the material for these purposes has grown to such proportions as to take the place of the export markets that have been lost.

ENGLISH NOTES

From our Regular Correspondent

The upset to the general export business in British textiles can be illustrated by a few figures from the October returns. In that month the quantity of cotton yarn sent abroad was 8 million pounds against 19.9 millions in October 1913. The shipment of cotton fabrics was 370.7 million yards instead of 630.9. The particulars tell all that one needs to know about cottons at large. It is instructive to turn from them to the details of the wool trade, giving attention first to the articles which were put under embargo in course of the month. The export of raw wool was 6.3 million pounds in place of 37.9 and of worsted yarn was .9 millions instead of 4.4. The shipment of carded woolen fabrics was 3.4 instead of 7.3 million yards, but sendings of worsteds and stuffs were actually more than a year ago, being 4.9 against 4 million yards.

The fact last-named is explained by the circumstance that trade with the United States did not decrease. During October 3,174,200 yards of worsted tissues, out of the total 4,967,200, were for the American market; being over four times as much as the 734,000 yards of October, 1913. Business with America proceeded almost as if there were no war. The shipment of carded woolen fabrics was 400,200 yards against 100,100 and of worsted yarn was 184,300 pounds against 6,000. Three-fourths of the raw wool sent abroad before the proclamation went to America. Business in cotton piece goods was 5 million yards instead of 4.6 and in linens and jute goods the fall in American takings were respectively only five and ten per cent as against the parallel of last year.

The points are mentioned by way of commentary upon the summary table,, given below, in which the totals of ten months' trade are stated:

Exports U. K. to U. S. 10 months to 31 October

		1913	1914
Cotton yarn	lbs.	4,559,700	5,058,500
Cotton piece goods	yds.	34,187,900	51,049,500
Worsted yarn	lbs.	50,800	1,965,400
Woolen tissues	yds.	1,721,600	7,511,100
Worsted tissues and stuffs	yds.	6,845,100	28,459,300
Carpets	sq. yds.	117,600	469,200
Spun silk yarn	lbs.	594,596	529,302
Silk broadstuffs, pure	yds.	241,142	157,433
Silk broadstuffs, mixed	yds.	418,512	1,157,193
Jute yarn	lbs.	293,300	1,405,400
Jute piece goods	yds.	74,728,900	60,595,300
Linen yarn	lbs.	1,746,900	2,263,800
Linen piece goods	yds.	88,992,200	98,917,300

British textile work, under war conditions, may be said to have entered upon its second phase with the re-opening of the Liverpool Cotton Exchange. The Exchange was not opened until the moratorium had expired, or until the official minimum price for cotton had been reduced to a level approaching Southern quotations, or until business in cotton yarn had unmistakably begun to move. In the cotton industry the first phase was the utter stagnation of new business, accompanied by the fulfilment of existing contracts on terms which have kept the mills spinning American qualities working about half their time. Something like the same proportion of time has been lost in the weaving trade, so with moderate accuracy it can be reckoned that production has fallen six weeks behind during the first three months. All going well, the new phase will be one of gradual recuperation and the third stage will come with the attainment of the normal. The first phase has been bad, but the mills have known worse times and their owners have never lost faith in the turn of the tide.

* * *

With the expiring of the moratorium debts to the amount of several millions have become due from exporters who are meanwhile unable to collect from their customers oversea in belligerent and other countries. Failing some tempering of the blast to the shorn lambs a large crop of failures was inevitable. The Government has come to their assistance with a plan, which is still upon its trial, of which the principal features are these: A committee has been set up consisting of representatives of the Treasury, the Bank of England, the joint-stock banks and the Chambers of Commerce, the last-named standing for industrial and mercantile interests. Traders can obtain from their own banks, schedules on which to set forth a list of their temporary irrecoverable

debts and statements of their own position. These particulars are to go before the committee, which has absolute and final discretion to decide whether an advance shall be made. Advances may be of any proportion up to fifty per cent. of the whole and are to take the form of six months' bills accepted by the banker and guaranteed by the committee. The paper may be discounted and the banks agree that no part of the money shall be applied to reducing their existing loans. The bills may be renewed at intervals until twelve months after the close of war and the one per cent commission charged on each acceptance is to provide an insurance fund. Of the eventual liabilities in respect of the advances, 25 per cent. is to be borne by the banks and the remainder by the State. Little fault has been found with the principle of this scheme for extricating traders from their hobble and it rests to be seen whether applicants get all the help they think they are entitled to.

* * *

To appreciate the reason for the embargo that has been laid on the export of sheep and lamb's wool, woolen noils, tops, waste, rags and yarn, one has to see the enormous demand for wool materials needed for the clothing of the forces of the Allies; a demand which has been reflected in advances of 25 per cent. or so in price. It has to be understood also that the new clip has far to travel, that steamship accommodation has been largely taken up by the troops and that the risk of losing a few cargoes is a real one. The restriction is thus not likely to be lifted until abundant new supplies are on hand. Licenses to export can be sought and are considered when the destination is British territory or an Allies' country, but otherwise no shipment of wool can be made. Articles like mohair, alpaca and camel hair are unaffected and it is permissible to ship woolen and worsted cloths of kinds adjudged unsuitable for military use. Separate regulations designed to prevent supply being made through neutral countries to the enemy are enforced.

The woolen and worsted mills remain unable to appease the insatiable demand for cloths and blankets. They work hours beyond the ordinary limits in the effort to catch up to contract dates and, for one reason or another, practically all of them fail in the attempt. In a regular way 43,000 greatcoats a year serve for the British army, but the issue is now 1 1/2 millions. Instead of one-quarter million uniforms, 5 1/4 millions are wanted, and seven million pairs of woolen drawers instead of 114,000. . These are the main items in a list which includes 11 million gray union shirts, an equal number of socks, 4 1/2 million pairs of puttees and odds and ends to match. These are the contract requirements, but the unofficial supplies are huge. Nearly every woman in the land is knitting. In some cases the knitting is taken to church. Spinners of fingering yarns never knew such business as now and there have been local famines even of knitting needles. Woolen knitting yarns and flannels are sold almost before the draper has opened the parcel. The diversion of demand is in part at the expense of ordinary domestic trade, which has probably not been more than half as large as usual and there will be some leeway to recover when the necessities of the field armies are more fully met.

* * *

The woolen and heavy linen trades have gained direct impetus from the war. The cotton industry is too huge to display any remarkable benefit from the enlarged requirement of sheets, towels and field dressings. Cotton khaki twill is being called for in larger quantities and in the military line cotton is taking the place of leather. Soldiers' belts and haversacks are made now with khaki duck and so are their bandoliers. The soldier gets his ammunition served out in a new duck bandolier and throws the old one away; an arrangement which has several points to commend it over the old necessity for stowing each clip of five cartridges into its separate leather pouch.

In one direction the attempt is being made of substituting the natural brown of tussah silk for dyed khaki wool. Since the American orders for spun tussah were cancelled spinners of them have had nothing to

do and the effort is being made to sell this material for hand knitting and also for warp. In appearance cloths with a tussah silk warp and a green-brown woolen or worsted filling leaves nothing to be desired and the strength is superior to wool. The fact that silk warp khaki costs 24 cents a yard more than wool is the main objection that has been raised against it. Solid tussah cloth has been held up as the ideal service dress for the tropics, but in that case the disparity of price is greater, for it competes with cotton. The combination of tussah and worsted in light-weight fancy suitings has found favor in some hot climates.

* * *

Textile work has been comparatively little disturbed by the withdrawal of men to join the colors. The reservists of the regular army were to be found rather in the dyehouse or the combing shed than in the mill. Volunteers have not been sought from mills engaged on Government work and Territorials have even been sent back to the mill. Although inconvenience has been felt in finding night shifts for woolen picker cones, the total of disturbance does not amount to a great deal, although the trouble is likelier to grow greater than less. If recruiting has been less active in the textile than in some other districts the matter has been more one of money than want of feeling. Men have hung back for want of guarantees of adequate compensation in case of disablement or death and a large influx of recruits can be expected once the economic question is set at rest. This not unhealthy spirit of calculation is not the only one that has been revealed. Workmen in the industrial districts have marked their dislike for the manners and speeches of the old tyrannical type of army officer and have responded much more freely to democratic appeals.

* * *

The application of three British firms for liberty to manufacture the vat color, Hydron blue, under Cassella's patents, seems to mark out that dyestuff as an especially desirable one from the color maker's point of view. Letters from half a dozen of the largest cotton dyers in the country testified to their willingness to buy this color. It was declared in evidence that with a $25,000 plant between one and two tons of the powder could be produced weekly; and one applicant said he would be content with a 10 per cent. return on his outlay. The owners of the patent agreed to give a license to one firm conditionally upon a manufacture of five tons a month and payment of 3 cents a pound or 7 1/2 per cent. royalty.

The hearings cooked one statement of interest in connection with the "compulsory working" clause of the English Patents Act. It was declared and not denied that the coal consumption at the English works erected to protect the patents of the three chief German dye and drug companies was only five tons weekly. In a separate hearing it was said by counsel that the proceedings of this concern, called the Mersey Chemical Works, were a mystery; that there never had been an application about dye or drug patents without the suggestion that the Mersey Company was going to manufacture the article; but that the works was not known in the trade as the manufacturer of any of the things it had promised to make. To do as much as was expected by the authors of the patent law, immense operations would be required at Port Ellesmere, Cheshire, the seat of this German-owned factory.

In considering applications for licenses to make patented dyestuffs the Comptroller has given palpable weight to the argument that even if our German company should undertake to manufacture in England, consumers ought not to be left dependent upon that single concern. The provision of new supplies of dyestuff remains a matter of growing urgency and for natural indigo five or six times the normal price has been paid. Some extension of British color making is inevitable, but no plan for dispensing finally with German aid has been matured. Two Huddersfield men, Mr. Lodge and Mr. Evans, by experimenting in the application of the sulphur colors, have arrived at a method making them available for wool and silk and their system is offered to dyers on a royalty basis.. The discovery is possibly of more value for use in an emergency than as a permanent acquisition.

AFTER THE WAR

From Zeitschrift fuer gesamte Textil-Industrie, Leipsig

The task that Germany will face after this war is ended will be to make German industries independent of England. Of course this independence cannot be accomplished suddenly, but will be of gradual development. Previous to the war of 1870-71 France possessed a monopoly of the continental worsted industry. In a comparatively short time after that war ended Germany had developed this branch of the textile industry so as to become an important source of yarn supply for the French worsted mills. England at the present time possesses a monopoly in the production of various kinds of wool goods, among them mohair yarn, the raw material for which is not produced either in England or her colonies. Germany is the principal consumer of this class of yarn. For some time past an effort has been made in Germany to import mohair direct and spin the yarn in German mills. This movement will be even more rapidly developed after the war. Germany can be made independent of England not only as regards the supply of manufactured textiles, but also of raw materials.

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A SILK WARP KHAKI

At a joint meeting of the Silk Association of Great Britain and the Silk Club of Manchester held at Manchester yesterday, A. Mellor, of Ormerod Brothers, Ltd., silk spinners, of Brighouse, announced that his firm, in connection with Messrs. Greenwood, manufacturers, of Holmfirth, had made a new khaki cloth composed of tussah silk warp and woolen weft. The cloth has been submitted to the War Office and has been favorably received. It was claimed that the strength was almost double that of ordinary khaki. The firm had received an order for material to be made up into 1,100 uniforms for the Reserve Battalion of the 4th West Riding Regiment, which is now approaching full strength. The natural color of tussah silk being khaki, only the weft requires to be dyed. The new cloth is less than a shilling a yard dearer than ordinary khaki. The material is to be submitted to the Russian and French Governments, and it is hoped that orders may follow that will lift the silk industry out of its present depressed condition.—The Yorkshire Observer.

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MANUFACTURING SPIRAL YARN

The spiral or screw formed yarn, shown at Fig. 1, is formed by a process recently patented in this country. The material, after having been previously twisted into a smooth cord, is by an excessive twisting made to curl up so as to assume the shape of a screw-formed winding. The last portion of the spinning, i. e., the curling process, which has up to the present time been effected by hand, is now done automatically, which means saving in labor and space.

Fig. 1 shows the material in its three stages: (a) before spinning; (b) spun into a smooth cord; and (c) curled up in screw-formed windings. Fig. 2 shows a front view of the apparatus.

At Fig. 2, the material to be spun, 1, corresponds to portion, a,, Fig. 1; and 2 is the smooth twisted cord, a, Fig. 1, which is passed through a hollow axle, arranged to rotate in a bearing, and carrying a driving pulley. To the axle is fixed a plate-shaped head on which are arranged a number of pins, of which two are shown on the drawing. Upon these pins may be slipped rollers, sleeves or the like. The head is further provided with a guiding device for the smooth twisted cord issuing from the hollow axle, the upper edge of the guiding device being about level with the centerline of the apparatus. The guiding device may consist of a solid block or a suitably bent plate, a short piece of tubing or a ring. The smooth twisted cord, 2, after having left the hollow axle, is carried over the pins and then over the guiding device, as shown in Fig. 2.

Through the rotation of the axle the material, 2, Fig. 2, is twisted into a smooth cord corresponding to portion, b, Fig. 1. In order to convert this cord into the screw-formed winding, there is an arrangement of the guiding device with its edge at such a plate in rela-

tion to the last guiding pin that the direction of the cord between the pin and the edge and the direction of the cord after having passed the edge forms an angle of about 90 degrees. The cord after having passed the edge, is subjected to a hard twisting. The finished material is then wound on a reel.

The edge may be arranged at a small angle with the center line so as to impart to the cord a slight direction to one side. After leaving the edge of the guiding device, the cord is subjected to a further twisting and through this new twisting it will curl up and assume the shape of a screw-formed winding as shown at 3, Fig. 2, corresponding to portion, c, Fig. 1. After leaving the edge the curled up material is carried through another hollow axle arranged to rotate in a bearing, a driving pulley being fixed upon the axle. To the axle is attached a fork whose prongs form bearings for a reel. When driving power is applied to the pulley the axle and with it the fork and reel will rotate, and by a device not shown on the drawing the reel is further arranged to turn on its own axis.

The extremity of the cord is secured to the reel, and the axle is made to rotate at a speed somewhat greater than that of the other axle. As the curls or windings of the cord are formed the material will move forward automatically and be taken up by the reel.

FIG. 1

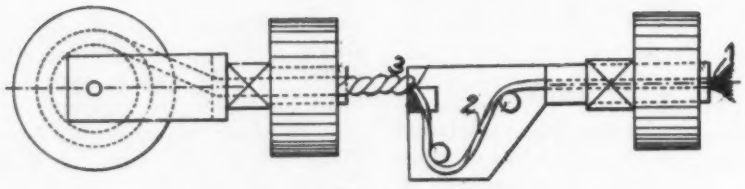

FIG. 2

WOOL GROWING IN THE UNITED STATES

Bulletin of the United States Department of Agriculture

A very considerable decline in the number of sheep has taken place since 1910. In that year the number on farms as ascertained by the census was 52,448,000; the estimate for Jan. 1, 1914, is $49,719,000, a decline of 3.4 per cent. from 1913 and of 5.2 per cent. from 1910.

Among the causes that have contributed to the diminution of number of sheep is the scarcity of labor required for their care, the high prices of sheep and lambs for slaughter, the displacement of sheep by expanding dairying, deficient pasturage and forage on account of drought, destruction by dogs, the settlement of range land previously occupied by sheep, and the low price of wool; also the increasing value of land.

According to the reports of correspondents the low price of wool is the most prominent cause. In view of the general agreement of correspondents with regard to this, the accompanying table has been prepared to show the range of wholesale prices of wool per pound in the Boston market from 1899 to December, 1913. The highest prices for Ohio fine unwashed wool since 1899 ranged from 23 to 30 cents from 1905 to 1909; from 1913 the range was 20 to 24 cents. Similar declines are observable in the cases of the other wools included in the table.

During 1913 the price of Ohio fine un-

washed wool declined from 24 cents in January to 20 to 21 cents in December; of Ohio XX washed from 32 cents in January to 25 1/2 to 26 cents in December, for Ohio Delaine washed from 34 cents in January to 26 to 27 cents in December, for selected Territory staple scoured, from 66 to 67 cents in January to 51 to 53 cents in December; for fine medium Territory clothing scoured, from 57 to 59 cents in January to 46 to 48 cents in December; and for fine free fall Texas scoured, from 47 to 50 cents in January to 41 to 43 cents in December.

Date.	Ohio fine, unwashed.		Ohio XX, washed.		Ohio Delaine, washed.		Fine selected Territory, staple scoured.		Fine medium Territory, clothing scoured.		Fine free fall, Texas scoured.	
	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.	Low.	High.
	Cts.	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*	*Cts.*
1899	16	26	25½	38	27	40	42	75	38	62	30	52
1900	18	26	27	38	27½	40	49	74	45	62	40	55
1901	15½	19½	26	28	27½	30	43	50	35	44	36	42
1902	19	23	27	32	28	35	48	59	42	50	38	48
1903	20	25	30	35	33½	37	52	60	50	58	44	48
1904	21	25	32	36	34	38	50	70	50	68	44	56
1905	23	30	34	37	36	40	65	78	60	72	54	63
1906	24	28	33½	36	35½	37½	70	78	65	70	58	63
1907	25	28	33	35	36	39	70	75	66	73	50	62
1908	19	27	30	35	31	39	53	72	43	62	42	53
1909	23	28	34	38	37	42	62	80	60	72	45	62
1910	20	28	30	38	34	40	60	80	54	68	48	62
1911	18	22	27	32	29	34	53	62	51	60	41	50
1912	21	25	28	33	30	35	60	67	48	59	42	48
1913.												
January	24	24	32	32	34	34	66	67	57	59	47	50
February	24	24	32	32	33	34	63	65	57	58	49	50
March	23	24	29	32	30	34	57	65	54	58	47	50
April	21	23½	27	29	29	31	55	60	51	55	45	48
May	20	21	27	28	27	30	55	56	49	53	45	46
June	20	21	27	27	27	28	55	56	49	50	45	46
July	20	21	27	30	27	28	55	56	49	50	45	46
August	20	21	26	30	27	28	54	55	49	50	45	46
September	20	21	25	26	27	28	53	55	48	50	45	46
October	20	21	25½	26	27	28	53	54	46	50	43	46
November	20	21	25½	26	26½	28	53	54	46	48	41	45
December	20	21	25½	26	26	27	51	53	46	48	41	43
The year.	20	24	25	32	26	34	51	67	46	59	41	50

In spite of the decline in the number of sheep, their value per head has increased 10 cents within a year and was $4.04 Jan. 1, 1914. This, however, is a decline of 1.9 per cent. from the price of Jan. 1, 1910.

The total value of all sheep on farms Jan. 1, 1914, was $200,803,000, a decline of 1 per cent. from 1913 because of the decline in the number of sheep, and a decline of 7 per cent. from the total for 1910 because of a decline in both number of sheep and value per head.

Since 1900 sheep keeping has been declining in this country to a very marked degree. The number of sheep in that year was 61,500,000, while the present number is 19.2 per cent. less, with a prospect of further diminution unless sheep are to be raised primarily for meat with wool as a by-product.

The number of sheep in this country per capita of the population was 1.13 according to the census of 1840. The number diminished to 0.57 of 1 sheep in 1890. During this period the census excluded spring lambs from enumeration. These were included in 1900 and subsequently. In 1900 the ratio per capita of population was 0.81 of 1 sheep and the ratio declined to 0.50 of 1 sheep in 1914.

The most striking geographic redistribution of a class of farm animals from the earliest census to the present time is perhaps afforded by sheep. In 1840 the Middle Atlantic States had 36.8 per cent. of all sheep on farms and New England was second with 19.8 per cent. The third place was held by

the east North Central States with 16.6 per cent., while next in order were the South Atlantic States with 13.6 per cent., the east South Central States with 10.6 per cent., the west North Central States with 1.9 per cent., the west South Central States with 0.7 of 1 per cent., and no sheep at all, as far as the census ascertained, in the Mountain and Pacific States.

Now New England and New York occupy the lowest and next to the lowest place, respectively, in the possession of sheep on farms, and a little less than 5 per cent. of the national total is possessed by each of the South Atlantic, east South Central, and west South Central States. The west North Central States have 10 per cent. of the total, the Pacific States 11.5 per cent., while nearly one-half of the sheep of the nation, or 43.3 per cent., are in the Mountain States, where sheep raising is a range industry.

The receipts of sheep at seven principal marketing centers have been compiled for 1900 to 1913. The record shows a marked increase in the number of sheep received for slaughter at these places for 1909, leading up to the highest number ever received, 14,000,000, in 1913. Here is clearly a case of the slaughtering of production stock kept for wool production.

The following paragraphs by George M. Rommel, Chief of the Division of Animal Husbandry, Bureau of Animal Industry, are included here as of interest in the discussion of sheep:

As a farm animal per se, the sheep has many distinct advantages.

(1) The sheep is a much more economical animal to feed than the steer, returning a larger amount of gain per 100 pounds of feed eaten. When his capacity to consume roughage is considered, he is more economical than the hog.

(2) The sheep yields a double return—meat at an economical cost, and wool as a by-product—which will go far toward defraying the cost of keep.

(3) Sheep are prolific. A farm flock which does not yield at least 100 per cent. increase is very poor indeed.

(4) A flock of sheep on a farm will, in time, clear it of weeds, without expense to the owner, if allowed to range the lanes, the stubble fields after grain is cut, and the cornfields after the corn is full grown. As a scavenger, even a goat is not more useful than a sheep.

As meat-food animals, sheep have never been sufficiently appreciated in the United States. They are, however, of very great value. They must be classed with hogs and poultry as the most available animals to supply meat for home use on the average farm. They are readily slaughtered, the meat can be kept without difficulty; it cuts up without waste in sizes which are convenient for the average family, and the meat is nutritious, wholesome, and palatable when properly cooked. The healthfulness of the sheep alone gives it front rank as a meat-food animal. Sheep rarely have tuberculosis or other diseases communicable to man.

The foregoing statements are axiomatic. If the sheep industry is so inviting, why do our farmers seem to be showing a tendency to curtail sheep raising? In my opinion there are three principal causes.

First. Intestinal parasites, principally stomach worms, cause serious losses in farm flocks over the whole country, and almost entire lamb crops are sometimes exterminated. In no farming sections are sheep free from this danger, and no breed of sheep is immune, although some breeds—the Merinos, for example—are less susceptible than others. No infallible cure for stomach worms is known, but it is possible to control them economically by keeping the lambs away from the ewes except when nursing, and by a system of pasture rotation. Unless a farmer is willing to take precautions in the management of the flock he should not raise sheep.

Second. Cur dogs are almost as great a hindrance to the sheep industry as parasites. The only protection against them is to keep the flock during the day where it can be watched and to put it into a dog-proof inclosure at night. An authentic case has recently been reported from Michigan where a flock of more than 200 head were all run to death in one night by two cur dogs. Dog-tight night folds can be built of woven wire at small expense.

Third. Farmers have not generally recognized the proper place of the sheep in agriculture in the settled regions. Too much importance is placed on wool. Except on the range, where land is cheap, the wool should be regarded as an incidental—a side line to help defray the cost of handling. Raising sheep for wool alone does not pay on farms, and the attempts of farmers to make it pay is undoubtedly largely responsible for the prevailing opinion that sheep are not profitable on expensive land. Sheep are raised in England on some of the most expensive land in the Kingdom, but they are raised as meat animals and not as wool producers; the wool is a by-product, as it should be in farm flocks.

If only 25 per cent. of the farms on which there are now no sheep should have a flock of not over 25 or 30 ewes, managed with reasonable care and protected against dogs, not only would farm revenues be materially increased, but a decided step in advance would be taken toward the solution of our meat-supply problem.

AN IMPROVED LACE FABRIC

The lace fabric shown in the illustration and recently patented is described by the inventor as follows: The object is to make such a two-ply bordered curtain in imitation of a hemstitched edge fabric, but with an integral lace edge, and to produce it from an initially single ply fabric having the features

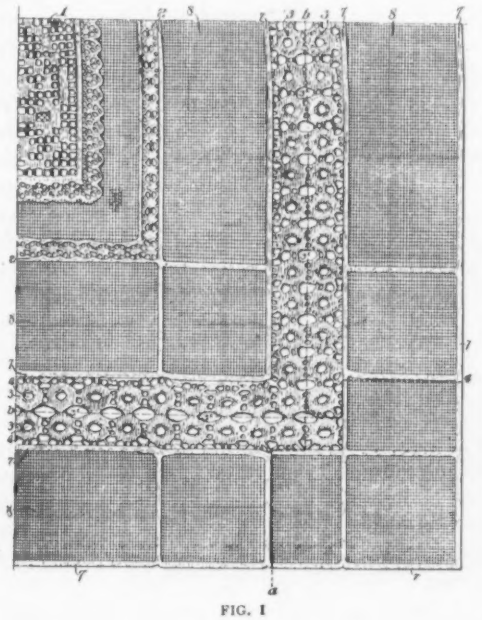

FIG. 1

described, by a folding-over and stitching method, which produces an edge commonly called a lace edge.

The curtain border is composed of two connected lace-forming portions, which, when folded one on the other and in register, and held by a line of stitching, produce the lace edge desired. The duplicated lace-forming portions constitute in the blank a border which is intermediate and parallel with a pair of border portions, each composed of the usual curtain netting and which are utilized in forming the two-ply edge hence producing an additional finish and effect.

Fig. 1 is a plain view of a blank, from which the finished product is produced; Fig. 2 is a view of the finished curtain produced from the blank; Fig. 3 is a section on line 3—3 of Fig. 2; and Fig. 4 a like section on line 4—4 of same Fig. 2.

The blank shown in Fig. 1 consists of the body portion of the curtain, at 1, 1, surrounded by the narrow solid material, 2, 2. The remainder of blank comprises essentially the lace forming strip composed of the parts, 3 and 3, which are to form, by folding over, the integral lace edge 6, 6, see Fig. 2, of the finished product.

It is essential that the lace strip be composed of two integrally-connected parts, 3 and 3, which are identical and reversely joined, so that when folded over on the line of union, indicated by the dotted line, b—b, Fig. 1, they shall be in register and produce not only a lace edge but a serrated edge, both effects being due to the series of alining

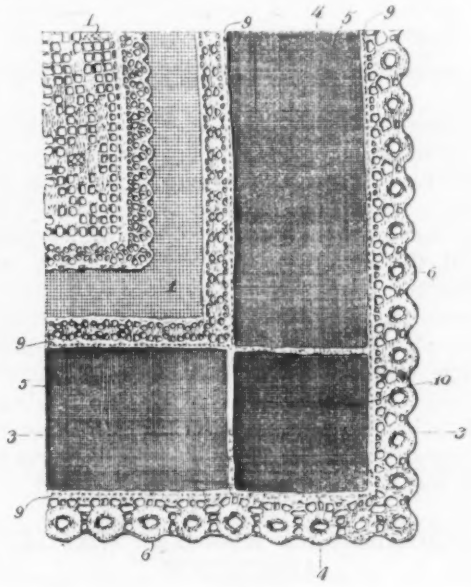

FIG. 2

open work meshes, 3′, at regular intervals between smaller opening, 4,, of like character.

The ultimate two-ply border, in imitation of a hemstitched border and with integral lace edge may consist alone of this folded over duplex strip or portion, 3, 3, but a supplemental border of netting, 5, Fig. 2, is preferred. This is produced in the blank by arranging the duplex lace-forming strip 3, 3, between two identical borders of netting, indicated at 8, 8, Fig. 1, at both the bottom and one side of the curtain, with narrow edges 7, 7, of solid or selvage material, so

that when the border, as a whole, is folded over, the like elements will be in register.

In producing the finished fabric from the blank, the corner of one blank is cut away on the dotted line, a—a, so that the corner may be suitably mitered. If then the outer netting supplemental border is folded over on the like inner border, the selvage or solid material edge and a line of stitching indicated is then applied along and through said selvage edges to secure the parts together, and an additional line or lines of stitching may be applied if desired wherever such selvage or solid material edges overlap each other throughout the finished curtain. This

FIG. 3

FIG. 4

folding over will bring one of the supplemental netting borders over the other one, and form the two-ply border indicated at 5, Fig. 2,, and in like manner produce the two-ply lace edge, indicated at 6, Fig. 2, integral with the supplemental netting border, 5, or with the curtain body. Where the blank is constructed as shown, that is to say with the two-ply border-forming and lace-forming edge elements along the edge as well as along one side of the curtain, the folding over in the manner described will give a three-ply thickness at the mitered corner, 10, but not elsewhere.

PHILADELPHIA WOOL AND TEXTILE ASSOCIATION

The annual meeting of this association was held at the Manufacturers' Club on November 6,, the principal business being the election of officers, which resulted as follows:

President, Arthur C. Bigelow, Swift & Co.; vice-presidents, Samuel G. Croft, Howland Croft Sons & Co., and Wm. H. Folwell, Folwell Bros. & Co, Inc.; secretary, James Akeroyd, Winslow & Co.; treasurer, Charles J. Webb; executive committee, Horace Bullock, Bullock Bros.; John Fisler, Yewdall & Jones; J. D. C. Henderson, Henderson & Co.; H. J. Kenderdine, J. Bateman & Co.; Jno. W. Levering, Erben-Harding Co.; Howard Reifsnyder, I. Reifsnyder & Sons Co.; Quincy A. Gillmore, Coffin & Gillmore.

A HAND BOOK OF WEAVES

By G. H. OELSNER, Director of the Weaving School at Werdau.

This Series began in July, 1911

Translated and Revised by Samuel S. Dale

If a mixed-up effect is desired, the broche lines are arranged by a motif having a scattered or irregular arrangement of spots. A 6-leaf satin answers well for such a purpose, each riser corresponding to a broche spot, as shown at Fig. 1650, in which both horizontal and upright lines are arranged in 1, 3, 5, 2, 6, 4 order. The ground and broche weaves are then filled in as shown in the completed draft, Fig. 1651. This is a double cloth with a 2 up 2 down twill on the face and a plain back. Warp and filling are each set 1 face 1 back 1 face. The broche threads when not on the face lie between the back and face.

Double Transposed Textures

In many heavy cloths, such as cotton vestings, table covers and suitings the pattern is often made by bringing each of the two textures of the double fabric alternately to the face and back. The face fabric in the ground work is on the back where the figured effect is formed, while the back fabric of the ground work becomes the face of the figured effect.

Usually face and back are set alike, 1 face 1 back. The draft is very simple where each weave is plain; then the exchange of face and back threads is made by offsetting the stair effect for one thread, as is in Figs. 1652 to 1655 and Fig. 1658.

Either 2 face or 2 back threads come together when the back and face textures exchange places. Thus in Fig. 1652, one transposition of face and back takes place at threads 1 and 16 both of which are on the back, the other transposition occurs at threads 8 and 9, both of which are on the face.

When large designs are to be made in a double plain weave a motif, as shown at Fig. 1656, is transferred to the full sized draft, Fig. 1657, from which the weave is then drafted, as shown at Fig. 1658. If, for example, the complete draft is to consist of 48

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threads, and be developed from an 8-leaf motif, Fig. 1657, each thread of the motif will correspond to six threads of the full-sized motif, Fig. 1657. The pattern is indicated on the draft by some bright color, usually yellow. The two weaves are then transposed, as shown in Fig. 1658, in accordance with this enlarged motif.

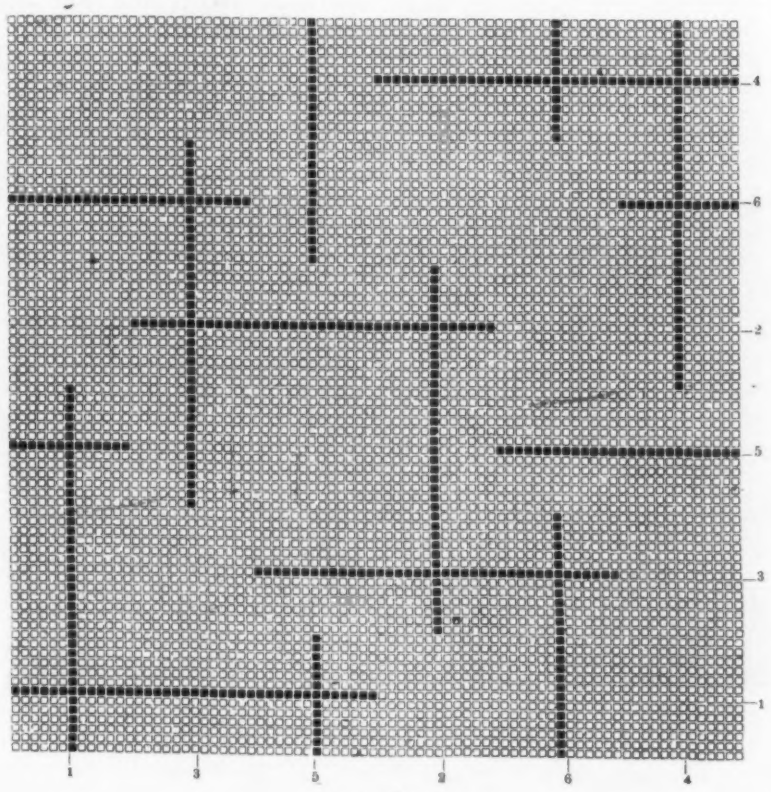


FIG. 1650

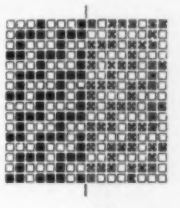


FIG. 1652

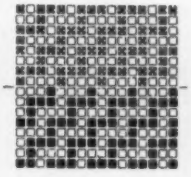


FIG. 1653

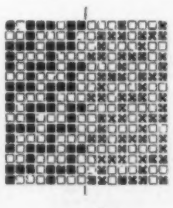


FIG. 1654

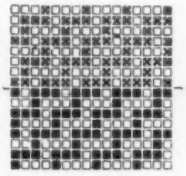


FIG. 1655

Each thread in a motif corresponds to at least two threads (1 face and 1 back) of the completed draft. Fig. 1660 shows the lower half of the motif at Fig. 1659 enlarged in this proportion, 2 to 1. This 2 to 1 enlargement gives the smallest pattern that can be obtained by developing a motif.

If the motif contains many single risers it is difficult to draft the weaves in the right order for transposing the textures. In such cases the ground is filled in with the plain or stair pattern, and when a figure space is reached the same weave is counted off, but the points are not inserted until the figure space is passed. When the ground is again reached the points are inserted in the position they would occupy if the figure space formed a portion of the ground and points

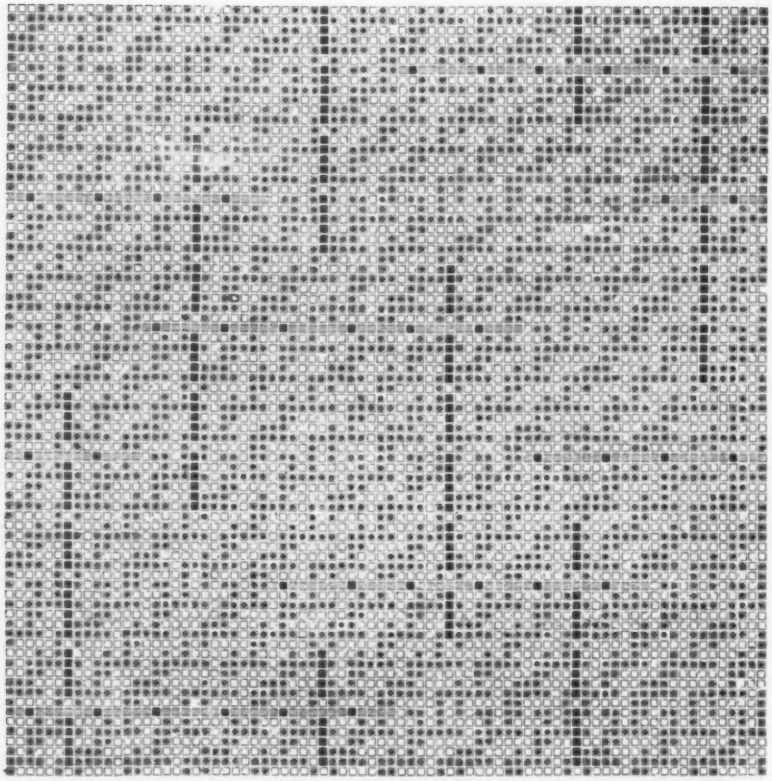


FIG. 1651

FIG. 1656

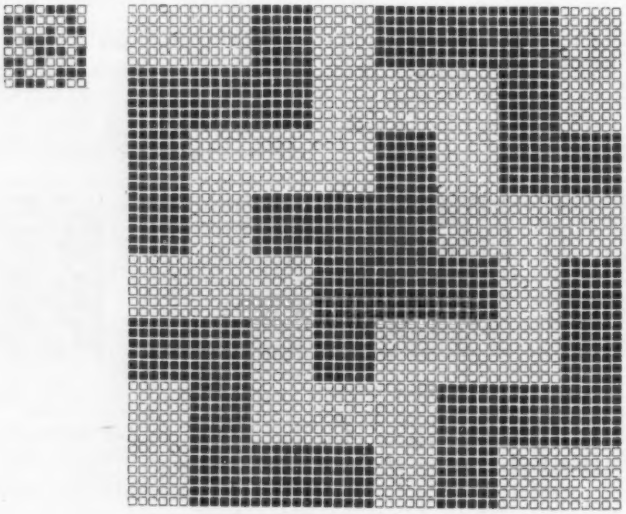


FIG. 1657

had been inserted without interruption. The figure is then filled in by the same method, offsetting the figure weave to make the required transposition of face and back. An example is shown at Fig. 1663, which is the

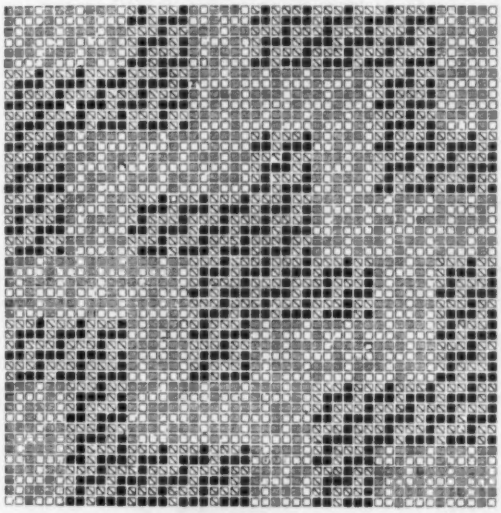


FIG. 1658

weave draft for the motif at Fig. 1661, enlarged at Fig. 1662.

The motifs for transposed weave patterns may be of any desired form. Several motifs for this class of weave patterns are shown at Figs. 1664 to 1673.

Usually the weave for the face is the same as for the back, as in Figs. 1652 to 1663, in which the ground and figure are each drafted with its respective weaves as if that weave covered the whole draft. The operations of drafting are as follows:

1. The face picks are filled in throughout the entire draft with the required weave.

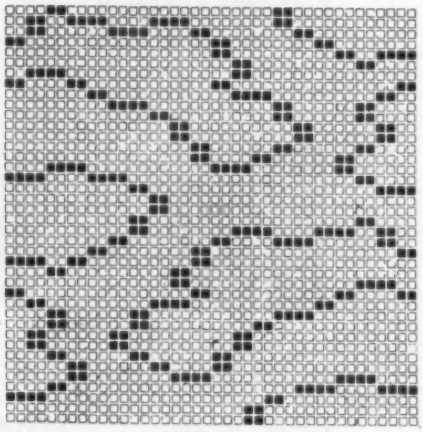


FIG. 1659

Risers are then inserted to bring the back warp threads to the face where the figure of the motif occurs. Fig. 1674 is the motif and Fig. 1675 shows a plain weave on the face

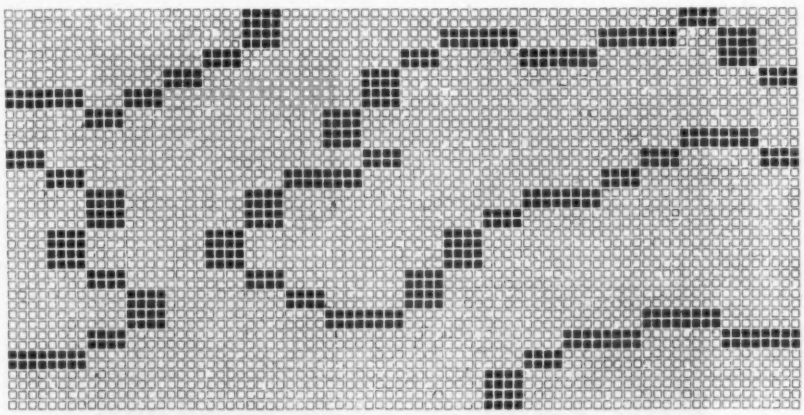


FIG. 1660

picks, the back warp threads being raised to correspond with the figure of the motif.

2. The back picks are next filled in with the required weave, and the face warp

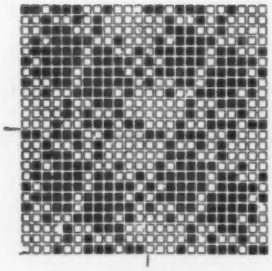


FIG. 1661

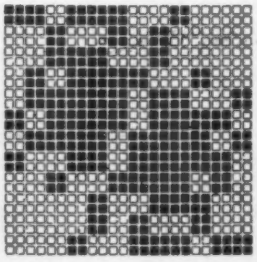


FIG. 1662

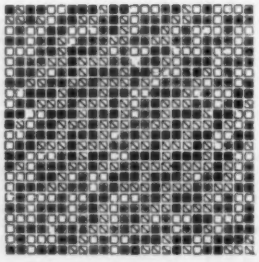


FIG. 1663

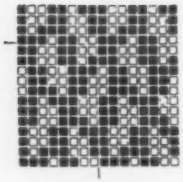


FIG. 1664

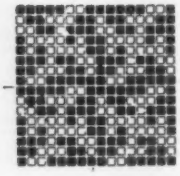


FIG. 1665

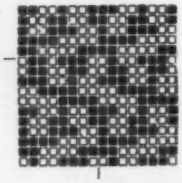


FIG. 1666

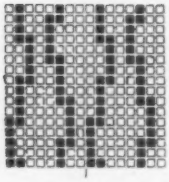


FIG. 1667

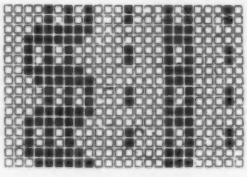


FIG. 1668

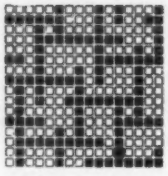


FIG. 1669

FIG. 1670

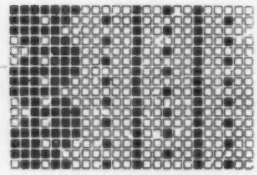
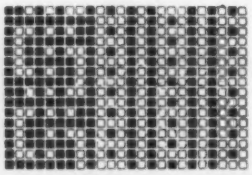


FIG. 1671



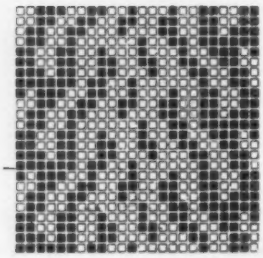


FIG. 1672

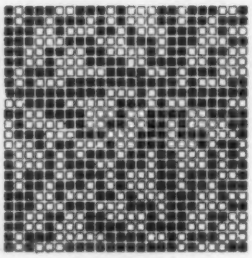


FIG. 1673

threads raised to correspond with the blank space on the motif. Fig. 1676 shows a plain weave on the back picks and the face warp threads raised above these picks to correspond with the blank squares of the motif. Fig. 1674.

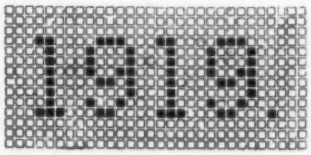


FIG. 1674

Figs. 1675 and 1676 belong to the same pattern and are shown separately to illustrate the method of construction. The completed weave, seen at Fig. 1677, shows that the transposition of the two textures and the drafting of the weaves are the same as in Figs. 1652 to 1663.

AN IMPROVED ELASTIC FABRIC

An improved method of making elastic fabrics, recently patented, is described as follows:

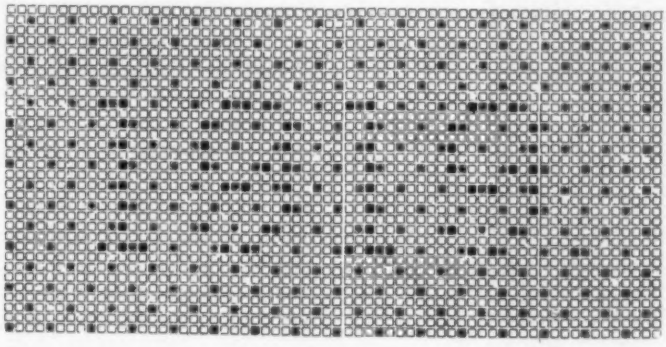


FIG. 1675

The elastic portions are provided with borders or edges of inelastic fabric, forming sewing sections. In the continuous flat strips of elastic webbing, as woven, the inelastic sewing sections are arranged intermediate the elastic sections, and the respective sections with reference to the length of elastic fabric are arranged transversely; in other words, in diagonal or transverse and reversed positions, adapting the strip to be cut up through the inelastic sewing sections into shaped pieces of suitable configuration for filling the gores of corsets, slippers, and

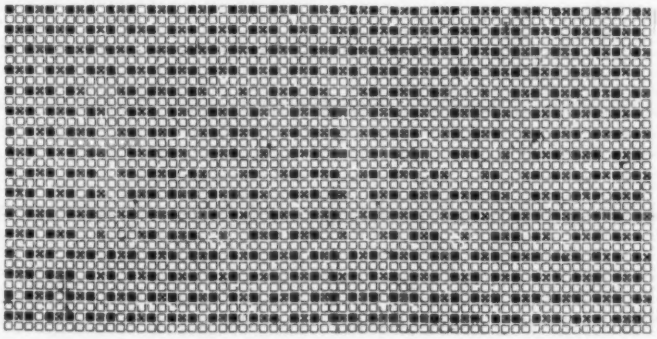


FIG. 1676

this, regardless of the width of the elastic fabric or the size of the suitable configurations into which the same is cut up.

In each of these parts, the elastic strands

run parallel with the warp threads, and in the sewing sections, the elastic strands and usual warp threads are bound together more

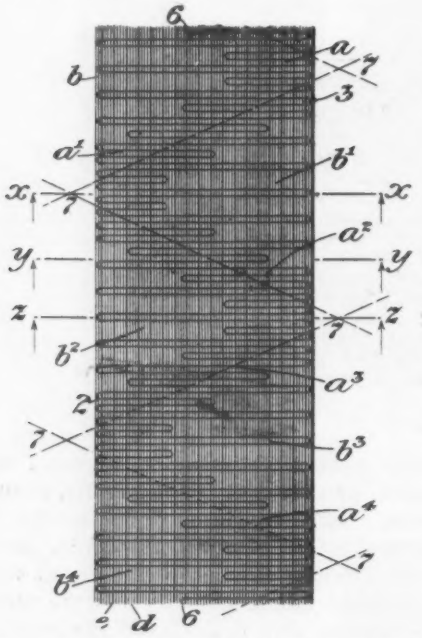


FIG. 1 PLAN OF A LENGTH OF THE IMPROVED FABRIC

firmly, closely and tightly than in the elastic sections, so that a slipping of the elastic strands in the receiving channels is therefore prevented.

are represented at b, b^1, b^2, b^3 and b^4. The warp threads of cotton or other suitable material extend lengthwise of the elastic fabric and parallel to the lines of the elastic warp threads and between the same. These elastic strands also extend from selvage to selvage.

The elastic strands are represented at 4, in heavier lines and in distinction to the warp threads of cotton or similar material.

The weft thread, 6, Fig. 1, is laid back and forth through the strip of webbing, is largely confined to the inelastic or sewing sections, and only occasionally extends across the full width of the fabric and through the elastic sections sufficient to bind the cotton and elastic warps together. As a result the weaving in the inelastic or sewing sections is much closer and firmer than it is in the elastic section. In this form the rubber strands are all at the same tension and all the warp threads which run parallel thereto are drawn taut. The weft thread, as illustrated, is carried only part way across in the majority of cases. As it extends part way across, its position is progressively shifted so that in passing through from one side to the other, it forms a diagonal compact sewing section, first in one direction and then in the opposite direction, there being between the diagonal portions edge portions uniting the same, which are also inelastic and in which the

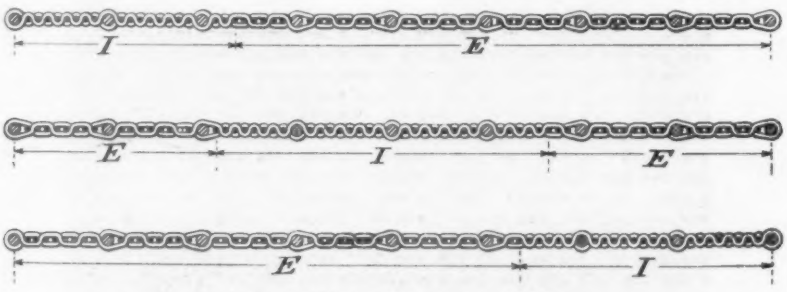


FIG. 2 A CROSS SECTION OF THE FABRIC.

Fig. 1 is a plan of a length of the improved fabric. Fig. 2 is a cross section at about the broken line, x x, of Fig. 1.

In the drawing, 2 and 3 represent the sides or selvage of the elastic fabric strip. The inelastic or sewing sections are represented at a, a^1, a^2, a^3, and a^4, and the elastic sections

weft thread, 6, is always present in a close woven relation.

The value of the cotton exported from the United States to France in 1913 amounted to $64,137,024 as compared with $63,385,690 in 1912.

Questions and Answers

Under this head we undertake to answer, free of charge, to the best of our ability, questions pertaining to textile matters received from any regular subscriber to the TEXTILE WORLD RECORD. Questions should be stated as briefly and concisely as possible. Inquiries pertaining to textile processes, machinery, improvements, methods of management, the markets, etc., are especially invited, as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

MILL WRINKLES IN KNIT GOODS

Editor Textile World Record:

In fulling knit cloth we are having some difficulty because of the roping of the pieces. The goods stick together, although we open them while in the wet stage. We find that the crease caused by roping remains in the cloth after it is dried and finished. Is there some method to prevent the roping in the fulling mill, or to remove the crease after the cloth is finished?

For soaping purposes we use a box on top of the fulling mill with a faucet directly above the solid roll. In front of the rolls the soap runs on the cloth from a 3/4 inch outlet in an even stream which gives the goods uniform soaping. We use one pound of soap to each gallon of water boiled 2 1/2 to 3 hours, when the soap is entirely dissolved. Of this solution we use 3 quarts to each 6 1/2 or 7 pounds of cloth. When soaping, we have the trap up, running this way from 10 to 15 minutes. By this time all the soap has run down on the cloth. After this we lower the trap and put on the required weights and then begin fulling. Running this way for 1/2 hour, the roping begins and here also is where our difficulty begins.

Dexter (2409).

A knit fabric suitable for men's wear to be fulled in a rotary fulling mill would have to be very carefully handled to prevent wrinkles. Its being woven in tubular form would cause it to rope and if the goods were run for some time wrinkles would be sure to show when finished. Ordinary woolen goods that have a tendency to wrinkle or rope are best fulled in the rotary fulling mill and fulling stocks. The fulling stocks are extensively used in England and Scotland and I know of no better method of preventing mill wrinkles than frequently shaking the goods out and fulling alternately in the rotary mill and stocks.

In fulling a fabric like the sample submitted, I should first soap down as stated, and run for only half the time required for the full amount of fulling. I would then shake out and fold the pieces neatly and place them in the fulling stocks, so that the feet kick across the wrinkles or in a woven fabric across the warp. Folding the goods placed in the stocks would have a tendency to shrink them lengthways, probably as much as in the rotary mill. In fulling in the stocks the goods are on view during the whole process and can be readily examined without stopping the machine or drawing the goods out.

In the woolen and worsted trade there are a few processes and machines for removing or covering up mill wrinkles, but the fulling stocks is the best prevention that I have found during thirty years in the finishing of woolen goods. Why stocks are not more extensively used in the American trade I cannot understand.

There are very few English mills that have not got one or more of these machines. It was once my privilege to be shown over a finishing plant that had eighty-five of these machines installed all of modern make, the feet kicking somewhere around 120 to the minute and turning out fine work upon all kinds of goods. I see no reason why a fabric such as this sample could not be turned out of these machines in perfect condition.

Pinetree.

I have examined the sample of knit goods submitted. I have frequently seen on certain kinds of woven goods the wrinkles or felted crease which this swatch shows. I can think of no better way of being of service than by giving an account of a few experiences I have had along the same line.

My first experience with wrinkles or felted creases occurred while I was finishing an all-wool thibet made of a very soft stock with a small percentage of shoddy made from soft flannel rags. I was using a palm oil soap, 12 ounces to the gallon of water. This

makes a heavy-bodied soap which up to that time I considered indispensable in producing a well-covered and well-felted fabric. Since then I have learned from grappling with the various troubles which confront a woolen finisher today that the best way to finish a fabric is to adopt the method which gives the desired results in the quickest and easiest way. I found after experimenting that the soap was too heavy for that class of work as it kept the goods pasted together and running in the same creases all through the milling process. I reduced the soap from time to time until it was a five-ounce solution. An alkali solution was prepared at 2° Tw. I used this solution after the first soaping for keeping the goods well moistened, applying a quart of the alkali liquor to each piece every twenty or twenty-five minutes, or as much of it as the goods would stand without slipping. This was applied very carefullywith a sprinkling can,, allowing the goods to make at least one revolution while putting it on. This thinning down of the soap seemed to keep the cloth moving so as to change the folds and wrinkles, preventing the fibers on the face of the cloth from felting in streaks. This method hastened the fulling. To offset this a little I had the doors and covers of the mills left open to keep the goods cool. We had no further trouble with creases or wrinkles. I talked the matter over with the superintendent and told him that I had made a change in the treatment that hastened the fulling somewhat, and asked him if he thought a little more twist in the yarns would materially lessen the production or change the appearance of the fabric. He thought not and made up a small lot of stock twisted a little more, making two full pieces. They fulled nicely and finished up well with a little firmer handle and with not a blemish on them. This change was adopted and the only time we had a wrinkled piece afterwards was when some weaver was careless about keeping the listings right. Then the goods would roll up and wrinkle. We were obliged to have the men shake these pieces out and stretch them by hand. If we found them inclined to turn in towards the face I had them tacked face out. This helped a lot. Knit goods woven in circular form and fulled in that way would be inclined to felt together in places and rope up and would not balloon up as a piece of woven goods does when running in the fulling mills.

If some method could be introduced which would constantly change the position of the cloth while in the fulling mill, making the cloth take on new wrinkles at every revolution of the piece, felted wrinkles or creases would be impossible. I would recommend thinning the soap. It might also be well to have the cloth shaken out. Two men could stretch them by hand every twenty minutes or so. Stretch by pulling so as to make new creases before running them into the mill again. This need not be a lengthy operation as two men accustomed to stretching cloth can go over a piece in a few minutes. We stretch goods inclined to roll about three times, especially haircloth and goods with a backing. This is generally sufficient. After the cloth begins to felt the rolling stopped and the goods run nicely.

I had another experience with goods roping up. This time I found the trouble was in the fulling mill itself. The goods would rope up a few minutes after being soaped and no amount of shaking had any effect. The goods roped and twisted so hard that when up in measurement they were full of air holes, which resembled knife cuts or jabs. This was caused by the air being confined and pressed until it exploded. On examination I found that a finisher whose place I had taken, had the bottom of the mills banked up on each side. He had an idea that the goods did their turning over in the bottom. This left only a narrow runway for the cloth. I watched the goods while running the mills and noted as the cloth passed over the guide roll at the front before entering the fulling rolls that there was a constant jump and a part turn of the cloth. The high speed of the fulling rolls caused this jump and the guide roll seemed to act as a twister. I thought the matter over and concluded there were two ways in which to stop this roping and rolling. One was to lessen the speed of the mill, but this would have prolonged the fulling too much. These goods were cassimeres and fulled on an av-

erage about three hours. This I considered plenty for that fabric, so I adopted another course. I found that the front or guide roll was considerably lower than the center of the fulling rolls and caused a pull from the bottom of the mill to the fulling rolls, as they touched the guide roll just enough to make them turn over. The relative position of the rolls is shown at Fig. 1. I had the roll raised so that the top of the guide was

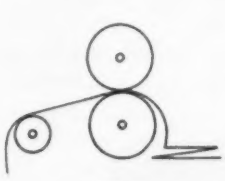


FIG. 1

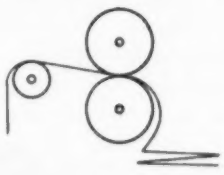


FIG. 2

an inch and a half above the center of the fulling rolls, as shown at Fig. 2. This stopped the twisting entirely and the goods came out without a hole or mark. The goods run as straight as goods can run in a mill and required no shaking out or attention other than a fuller should bestow on his work.

These are suggestions that I have found to work well. If I could see the goods and watch them while in the fulling mills, I could make suggestions to better advantage. There is a vast difference between looking over the finished product and gussing at the cause. Resarf.

Mill wrinkles, caused by the roping of goods in fulling, are largely due to the character of the goods, as the trouble often occurs when the machines are in good condition. There are certain precautions in regard to the preparation of the soap and the adjustment of the fulling mills that may help to overcome the difficulty.

The goods in question are very susceptable to the trouble on account of being a knit fabric, which lacks the close intersections of threads that a woven fabric possesses. The real cause of the trouble is the running of the goods in the same wrinkles or folds, and a fabric that fulls quickly does not have the chance to change the position of the wrinkles that a longer fulling fabric has. Anything that tends to avoid or break up the wrinkles is advisable. To this end I would remove or have very open all guides of the cloth except the "pot eyes" nearest the rolls, giving the cloth all the opportunity possible to spread and open as it passes over the front roll in the mills. I would then reduce the pressure of the top rolls so as to avoid setting the wrinkles as they pass through the mills. I would not trap harder than really necessary.

In sewing the goods into the mills, the mill sewing machine gives the best results. If sewed by hand, a fine even sewing is desirable as any long stitches or loose sewing will produce wrinkles extending far into the cloth. The goods should be free from grease in order to get good results, as the soap is prepared with no addition of alkali to overcome the grease contained in the cloth. Ordinarily in fulling woven cloths an addition of alkali to saponify the grease is necessary. If the conditions of fulling are not correct, imperfect work must result. If the grease contained in the stock is not taken up and saponified there will be a lack of pliableness and lubrication of the fibers that will cause the trouble in question.

If the soap is as solid and good as ordinary fulling soap, one pound to a gallon of water is entirely too much, as it causes a pastey effect that is not desirable. In an experience of over thirty years in the finishing of all kinds of woven fabrics, I have never used more than nine ounces of soap to the gallon, and more often only six to eight.

If the stock contains any acids, either from carbonizing or dyeing, it will surely cause trouble as it will destroy the vitality of the soap and lead to mill wrinkles and other difficulties.

Care should be taken to secure, first, the right moisture when soaping. The cloth should have all the soap it will carry without appearing as a lather on the outside, or flying from the cloth as it passes through the rolls. The soap should appear creamy, but not pastey when wrung from the cloth. If it runs thin and watery it is an indication that it has not a sufficient body, or has been

impaired by contact with something the cloth contains, or has failed to overcome the grease, all of which destroys the full and pliable-effect desirable.

The soap should be used cold. In washing the water should not be warmer than the hand can bear. If the goods are knit circular and the ends are sewed together, destroying the tubular effect, the ends of the seam will surely cause a fold. Elmo.

COTTON WASTE BLEACHING

Editor Textile World Record:

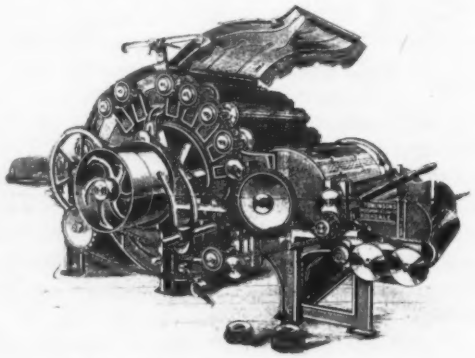
I enclose a sample of clean and white cotton waste, which is said to have been prepared in England from ordinary dirty and greasy mill waste. My informant states that in England the business is being done on a large scale. I would be glad of information. Gladich (2243).

Our English correspondent replies as follows:

It is quite true that cotton waste is being bleached in England upon a large scale and the trade in some of its branches is a fairly old established one. The scale of some of the works in which it is carried on may be indicated by the $75,000 damage done by a recent fire which affected one part of a waste-bleaching works near Oldham. Waste is bleached for various purposes and in course of a general description it can only be said that much depends upon the use to which the material is ultimately to be put. It may be used as wiper or engine cleaning waste; as gun cotton; as wadding (plain or gummed) and for coat linings. It may also be used as absorbent cotton for surgical purposes and in the preparation of the compounds of cellulose such as artificial silk. In the preliminary stage, however, the methods of treatment are much the same.

It is a common practice first to put the material through a willow or shaking machine in order to remove as much of the loose dirt as possible and sometimes, but not always, to extract a good portion of the oil by steeping in a spirit, usually benzine. Cleaned waste is sold under varying guarantees of its freedom from grease. There is a great objection to the use of open machines for use with volatile and inflammable spirit and some degreasers of waste appear to be using a special form of machine similar to that used in degreasing wool. The material is then put into a kier or soap washer and boiled under pressure in a strong solution of caustic soda. The kind of kier for the purpose is usually provided with a perforated false bottom and a perforated cover, between which the material is held during the boiling operation.

The material from the kier is well rinsed in clean water, put through a hydro-extractor and finally dried. The drying machines employed are somewhat similar to wool drying machines in which the material



A DRYING MACHINE FOR COTTON WASTE

is conveyed under and over steam heated pipes by means of traveling grids or lattices. Lattices are also employed for conveying the material from the willow to the kier and onwards where it is desired to save labor. Other systems of drying such as hot air chambers can of course be adopted to suit the conditions of the manufacturer.

The cleaned waste is now put up at the fearnought or engine cleaning waste machine, shown in the illustration, where it is subjected to a process of combing. This machine resembles a roller and clearer carding engine except that it is much more strongly built and that the rollers are covered with strong steel filleting. The feed rollers are built up of cast iron segments with teeth which form a part of the segment. The feeding lattice is also made up of a series of iron segments which are held together by leather belts. The material leaves

this machine in a condition suitable for use by engineers as cleaning waste.

The raw condition of the waste and the purpose to which it is to be put determine the extent of the bleaching. The caustic-soda boil suffices ordinarily but where a pure white absorbent cotton for surgical uses is wanted the waste is bleached in the regular manner with bleaching-powder followed by washing and souring; although there would seem to be no reason except the expense for not using hypochlorite of soda in place of chlorinated lime. A very high degree of purity is demanded in buying absorbent cotton whether for surgical purposes or for conversion into artificial silk and a guaranteed standard is offered by the largest producers.

If the material has been sufficiently freed from oil by the steeping and bleaching processes it is suitable also at this stage for conversion into gun-cotton. For this purpose the waste is steeped in a solution of one part of nitric acid and three parts of sulphuric acid. The nitric acid renders the cotton explosive, the sulphuric acid absorbs the water and allows the other acid to combine more readily with the nearly pure cellulose, of which clean cotton consists. After the cotton has soaked in the acids for several hours it is taken from the pots, and squeezed through heavy rollers to extract such acid as has not been absorbed. It is then washed carefully and thoroughly with the object of removing the free acid. Should any acid remain, its tendency would be to cause chemical changes in and to decompose the nitrated, or gun, cotton.

When required for wadding such as is used for coat linings, the material needs further opening to bring the fibers into a loose, fluffy condition. This is sometimes done on a hard waste breaking-up machine, which opens and breaks up the material and delivers it in a thick fleecy condition. The machine is similar in its construction to a roving waste opener and is provided with a cylinder having spiked teeth and suitable feeding mechanism. The cotton is discharged loosely on to a traveling lattice, from whence it is taken to a carding engine on the roller and clearer principle and in England termed a wadding card. The workers and clearers of this machine are covered with coarse wire clothing as are the cylinder and doffer. The material is discharged at the delivery end in a thin level fleece, the thickness of which is increased by making a multiplicity of layers. This latter object is sometimes attained by a cross plaiting arrangement fitted to the card and sometimes by allowing the fleeces from several machines to fall on the top of each other upon a traveling lattice.

If the wadding is to be gummed on one side it is passed through a gumming machine consisting of a trough containing gum or size in which a roller is partially immersed. Between this roller and one rotating above it the material is conducted, and thereby coated with gum. It is conveyed afterwards to be dried upon an endless traveling lattice over steam heated pipes and drives and is delivered either in rolls or sheets as required. This description gives an outline of the general work done by those who carry on waste-bleaching business in England. Mancunium.

EFFECT OF FORMALDEHYDE ON WOOL

Editor Textile World Record:

We understand that the government has asked that all wool be fumigated with formaldehyde. Does this affect the character of the fiber or its behavior on the machines? Chemist (2408).

Formaldehyde occupies a front place as a germicide, but seems to be of little value as an insecticide; roaches, bedbugs, and other vermin resist exposure to its fumes for a very long time. Regarding the action on textile fibres, particularly wool, no alteration of the properties of the fibre appear after a long contact with the vapors. The dyeing progresses the same as if the wool had not been so treated. Dyed colors are not generally affected except in the case of a few pale tints, and these are not materially altered.

A water solution of formaldehyde, when heated, affects metals and might possibly act injuriously upon certain parts of textile machinery, but it is hardly likely that wool that has been fumigated with this gas will retain any appreciable quantity, as it readily

dissipates upon the wool bales being opened. It is the only disinfecting agent that can be employed with safety upon fabrics from the finest to the coarsest texture without fear of any possible injury to either the fiber or the colors. It has the added advantage of not requiring any special means to remove the after-traces other than by ordinary ventilation. Berwick.

FORMULA FOR TREATING ARTIFICIAL SILK

Editor Textile World Record:

Please give me a formula for treating the enclosed sample of artificial silk. I would like something that will lay the strands of the thread and prevent the ends from fraying when they break. This would also have a tendency to strengthen the fiber. I would also like to have a formula for bleaching a mixture of silk and artificial silk.
Duplex (2374).

In order to deal with broken fibers and the fraying of broken ends I must first explain the different natures of artificial silk and their uses. The following products may be distinguished: Nitro or collodian silks, Cupra-ammonium silks, viscose silks, acetate silks, silks from solutions in stannic chloride, or in sulphuric or phosphoric acid. For the finer sizes of threads, from 70 to 100 denier, Chardonnet silk is almost entirely employed, but for the coarser sizes, 140 to 180 denier, the viscose silk is mostly used.

When examined under the microscope, the filament of chardonnet artificial silk is found to be a straight regular cylinder, without any longitudinal striations. There is also observed on the filaments minute spherical points and excoriations which arise, no doubt, from the passage of the fibers through the spinnerets, or from the subsequent operations in spinning and bleaching. There are also to be noticed longitudinal striations in viscose silk which are very sharp and regular. In the manufacture of this silk the coagulation has taken place in a bath of sodium bisulphate. Soluble nitro-cellulose is prepared from purified cellulose by the action of a suitable mixture of sulphuric acid and nitric acid, so as to produce mainly the tetra-nitro compound and is afterwards dissolved in a mixture of 40 per cent. alcohol and 60 per cent. ether.

The most striking feature of the artificial silks is their brilliancy. Nitro and viscose silks show more luster than the natural silks, but they cannot be made to scroop as well and have a somewhat harsher feel. The cupro-ammonium silks resemble the natural product in luster and scroop more closely.

In handling artificial silks the user will find out that he is up against a different proposition than when handling natural silk. The yarn being of a wooden nature is easily broken and it is necessary to use some kind of a softener. The penetrating action which is one of the most striking properties of monopol oil makes it a valuable help in bleaching with peroxides, for which purpose the bleach bath is mixed with from 0.3 to 0.5 per cent. of its volume of monopol oil. The baths used must be as slightly alkaline as possible and their time of action as short as possible. To preserve the luster of artificial silk a little good rosin soap is added or a soaking oil, such as monopol oil.

In bleaching silk and artificial silk the usual cotton bleaching methods are adopted, but care must be taken not to tender the artificial silk. If the operation is too prolonged this may take place from the formation of oxycellulose and cellulose hydrate. The bleaching may be done with bleaching powder, sodium hypochlorite, chlorine, hydrogen peroxide, sodium peroxide, or sodium perborate. If bleaching powder is used, the solution is taken weaker than the ordinary cotton bleaching. After bleaching and souring give a bath of antichlor and rinse in soft water. If the antichlor is omitted the goods are apt to turn yellow in stock and the appearance of this color always means that the artificial silk has become tendered. If these methods are used there is no reason why artificial silk should become tendered or have any broken fibers or fraying ends when broken. A good method for silk and artificial silk is to treat each thread separately and then spin together or give both a sulphur vapor bleach, but there is no advantage over peroxide of hydrogen bleach if same must be dyed afterwards. In order to lay the fibers in threads the yarn can also be run through a solution

of gelatine, olive oil soap, beeswax and dextrine mixed with water, running this over the thread finishing machine after being wound on bobbins. Lithonia.

BLACK LEAD ON LACE GOODS

Editor Textile World Record:

Please give me the best process for removing black lead from lace goods in rope form in a one-boil finish. Windsor (2391).

"Windsor" does not state whether it is graphite, black lead, lamp black, or sulphite of lead. The best process is to steep the goods well in a strong soapy solution before putting them into the kier to boil. If the black lead is in patches they should be rubbed by hand to loosen the graphite. When this is done the process of washing will carry off the particles of lead left on the goods. This can be done by locating the places where the black lead appears. If in small patches take the goods out of the pile as they are being run and then make a strong solution of soapy water and wash out the spots. If on the other hand, the black lead is scattered in fine particles the following process should be used: Saturate the goods with water, then squeeze and give a bath of muriatic acid, letting them lie for three or four hours. Then wash off and run into the kier and boil by the usual process, adding a good quality of soap chips or a bleaching compound. Delco.

"BENDER" SURGICAL BANDAGE

Editor Textile World Record:

Enclosed is a sample of a surgical bandage sold under the name of "Bender," and made in Germany. Is this fabric made in the United States, and if so, where can it be purchased? The "Bender" bandage is put up in small rolls. A piece 5 1/2 yards long and 4 inches wide is sold at retail for 49 cents. Arras (2389).

Our analysis of the German bandage, which is shown at Fig. 1, resulted as follows:

Weight, 3.9 ozs. per sq. yd.
Warp, 44 threads per inch.
Filling, 44 picks per inch.

Warp yarn, 11s cotton finished. Allowing 8 per cent. for take-up, the spun count is single 12s, twisted to the right.

Filling yarn, 2/10.4s cotton finished. The filling in 8 inches of cloth measures 18 inches when stretched. Allowing for this take-up of 55 5/9 per cent., the spun count of the filling is 2/23.4s.

The filling is woven 2 picks right twist, 2 picks left twist. This brings the same filling twist over alternate warp threads, giving the effect shown at Fig. 2, which is an enlarged sketch of the finished fabric.

The soft twisted yarn and combination of a plain weave with two kinds of twist in the filling gives a very porous fabric, and the

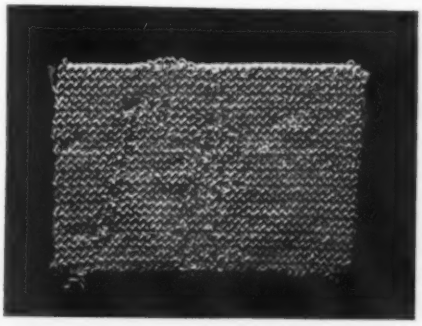


FIG. 1. "BENDER" SURGICAL BANDAGE

large amount of take-up in the filling makes the cloth very elastic, giving a bandage that adheres to the body or limb and supports the muscles or other parts.

The price named by "Arras" is equal to

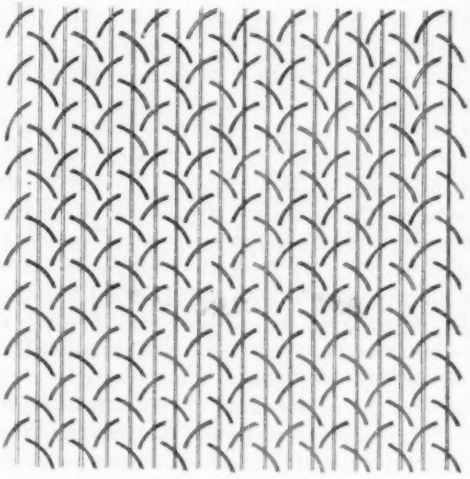


FIG. 2. SKETCH OF THE "BENDER" FABRIC

$3.31 per pound of cloth. This seems high at a time when American cotton is a drug on the market at 7 to 8 cents a pound. Allowance should, however, be made for the comparatively small quantity of goods consumed and for the fact that the novel construction which is specially adapted for the requirements of a surgical bandage. We ask our readers to inform us of any American mill making these goods.

Dyeing, Bleaching, Finishing, Etc.

BLACKS ON MEDIUM WEIGHT WOOL GOODS

BY BETA-NAPHTHOL

Blacks on woolen fabrics are always staple. For a very wide range of goods that are sold in the stores different methods of dyeing are necessarily employed, but as a general rule, the same principles apply to all, whether the goods are of light, medium or heavy weight. Medium weight goods, being more generally used, serve as the basis of treatment applied to other weights, but with slight modifications due to differences in handling.

Good results in dyeing depend upon good preparation of the cloth. To produce satisfactory results, which means level shades, thorough penetration of the color through the cloth, and absence of spots or flecks, necessarily implies that the goods should be made of yarns that have received careful attention through all the preparatory processes, even as far back as in scouring of the raw wool. It has been aptly said that good cloth is the result of good wool scouring, and consequently the better the wool is scoured in the first instance, the better the yarns resulting and of course the better the weaving. The scouring of pieces is not an easy matter. It is quite possible to overwork woolen goods in the scouring boxes in an endeavor to make them clean, when, as a matter of fact, the lubricating oils used on the wool in the picker house, resist the action of the scour liquor and consequently the working of the pieces to remove these oils impoverishes the cloth, causing defects that are bound to show up after the goods have been dyed and finished.

The influence of hard water has been many times brought to the attention of woolen goods manufacturers, and the treatment of textile mill water supplies, having been thoroughly investigated by builders of water softening equipment, little need be said on this subject, except to draw attention to the fact that a mill water supply practically free from lime and magnesia, will give results showing in the finished goods, immeasurably superior to a water supply that has not been treated or which contains indefinite quantities of alkaline earths. The advantages of soft water are now coming to be so thoroughly understood and appreciated by mill men, that it will be but a short time before all progressive mills situated in hard water regions, will be equipped with water softening plants. An ample supply of soft water has a distinct advantage in running goods after being scoured, as this prevents the entrance of soapy or otherwise unclean goods to the dye house.

Defective dyeing has many times been charged against irregularities in dyestuff supplies. Dyestuffs have been blamed for unevenness; for lack of penetrating and other evils, necessitating redyeing or selling the goods as "seconds," but when all the facts have been investigated and the causes of the defects traced to their origin, it is frequently found that the trouble originated with lime soaps tenaciously adhering to the cloth, and which were not removed or neutralized in the dye bath. Instances have happened when dye mixtures were used, even when the dyer has been shading up by the addition of toning colors, shaded pieces finally appearing, and the fault was credited to the fact that the bottom color when dyed, reacted against the shading color,, both being thereby precipitated in the dye bath and unevenness resulted. As a matter of fact, very few dyes of the same or allied groups precipitate each other.

While the general form of dye kettles remains about the same to-day as formerly, there have been a number of minor changes which constitute a distinct improvement over the older form, tending to obviate the possibility of streaks. This is noticeable in those kettles on the winch of which are large rounded projecting lumps or nodules which continuously shift the position of the cloth while it is in motion through the dye liquor.

This improvement not only causes better penetration, but a loosening up of the folds of the cloth. This is a distinct advantage over the old form which permitted the cloth to work through the liquor in the form of rope.

Steam distribution in dye kettles is of greater importance than is usually considered. The idea of simply blowing live steam into the large volume of water for the purpose of raising the temperature to the boil, is correct as far as it goes, but so many defects in pieces have been traced to unequal circulation of the boiling liquor, that greater attention is being given to the steam inlet and its propulsive force in causing the dye liquors to circulate through and around the cloth being dyed. Novel forms of steam jets are now being made use of, in preference to older forms of inverted "Ts", the arms of which are perforated to permit the exit of steam. The older type of "L" shaped steam inlet pipe in dye kettles also played its part in unequal boiling of the dye bath, with the result that pieces at one end of the winch failed to take the color as promptly as those being dyed at the other end. In such instances the dyes used promptly received their share of the blame for going on unevenly, whereas the fault was due to the unequal heating of the dye bath.

Most dyestuffs as a rule go on wool quicker at a boil than at lower temperatures. This brings before us the question of rapid boiling, as against simmering.

Some dyers entertain the idea that unless the dye bath is continued at a "spring" boil they are not obtaining good results. No doubt dyeing under this condition enables the dyer to turn off more pieces, but are they dyed better? Are they as level as the dyer would obtain if he operated his kettles at a simmer and allowed the dyestuff to be taken up at that temperature by the wool, instead of forcing the dye on the wool in a shorter time? In dyehouses where it is usual to dye hard and rapidly and where a number of pieces that are unevenly dyed are encountered, the remedy naturally is to add a few more kettles to relieve the congestion. Medium weight woolens should always be dyed slowly. Proper penetration is thereby secured and the shades will always be level. If too rapid boiling or too high a temperature is employed the dyestuff jumps on the surface of the cloth, giving the appearance of imperfect penetration, when as a matter of fact, if the dyeing had been conducted less rapidly and at a few degrees lower temperature, the wool of the cloth would have been dyed uniformly through and through. Lack of penetration of the cloth is generally an index of too rapid work in the dye house.

The addition of dyestuffs to the dye bath should be done with some degree of regularity. The dye should be first dissolved in hot water, then strained through hair cloth or cheese-cloth, and added in two or more portions to the bath, and always in the color box rather than into the body of the kettle, the idea being to distribute the added dyestuff uniformly through the large volume of water. As a rule Glauber's salt may be added to the dye bath at any time. Some dyers prefer to add it before the dyestuff, others add it after all the dyestuff has been added. It is doubtful if any difference can be noticed. It would seem, however, to be the best practice to allow the cloth to run for some little time without the addition of chemicals in order that the total volume of the bath shall have all the dye before the actual dyeing begins. Where sulphuric acid is used, this should always be first diluted with cold water and added in several portions.

The general method for dyeing medium weight goods is as follows: The dyebath is filled with water to near the working level for the number of pieces to be dyed, and with approximately three gallons for each pound of cloth to be dyed. Charge the bath with 10 per cent. of Glauber's salt and 5 per cent. acetic acid, then enter the still wet pieces from the previous rinse, at a temperature of 150° F., and add the previously dissolved dyestuff in several portions. Raise the temperature at once to the boil and boil for 3/4 hour. Now add in two portions 2 1/2 per cent. of oil of vitriol, well diluted with water and keep at the boil for 20 min-

utes or until the bath becomes quite exhausted.

Blacks of the naphtylamine group, such as the 4 B, 6 B and the D marks are useful. The 4 B is interesting as it resists carbonizing,, and yields a fine logwood-like shade. When ramie figured stripes are interwoven the use of Naphtylamine Black S is suggested as it leaves the vegetable threads unstained, and possesses the advantage of permitting the dyeing to commence with oil of vitriol, this saving some time. Light and middle weight goods are dyed by entering at once into the boiling dye bath, and continue boiling until it is quite exhausted.

Owing to the uncertainty of many dyestuff supplies, and the consequent curtailment of some necessary dyes, recourse is had to those useful processes in which logwood or sumac enters. Two such typical processes are given. Naphtyl blue black N in combination with logwood is applied by the one-bath method, yielding blue black shades.

For 500 lbs. of cloth dissolve:

Solid Extract of Logwood	lbs. 15
Copperas	lbs. 20
Bluestone	lbs. 10

After solution is complete add

Oxalic Acid	lbs. 10

or as much as may be necessary to dissolve the black precipitate first formed, and at the same time impart a yellow color to the bath. This is important. Now add:

Naphtyl blue black N.....	lbs. 20

The bath being hot, enter the goods and raise to the boil in 20 minutes, and keep boiling for 1 1/2 hours, adding a further small quantity of oxalic acid to exhaust the bath, which should, however, appear slightly blackish. Lift, wash well and finish. This method of dyeing adds from 6 to 8 per cent. to the weight of the goods, and when finished with fullers earth, a degree of softness or "handle" is imparted that is difficult to secure by any other means.

A sumac combination is as follows: Prepare the dye bath for 500 lbs. of cloth with:

Oxalic acid	lbs. 15 to 20

according to water hardness.

Glauber's salt	lbs. 50
Naphtyl blue black N	lbs. 25 to 30
Sumac extract 51° Tw.	lbs. 35

If necessary for shade, use a few ounces of some wool green such as brilliant milling green B. Boil up the bath and shut off the steam, enter the goods and run for 1/2 hour, then give the steam, and boil for 1 hour, observing whether the bath becomes clear in that time, if not, add a few pounds more of oxalic acid and continue boiling until the bath becomes clear. When exhausted add:

Bluestone	lbs. 10
Copperas	lbs. 20

Continue boiling for a further 1/2 hour. Rinse in cold water for 3/4 hour, and finish with fullers earth for a good "handle."

THE GILES YARN DYEING MACHINE

A patent was granted October 20, 1914, to John H. and Donald M. Giles, of the John H. Giles Dyeing Machine Co., Taunton, Mass., for a yarn dyeing machine which embodies a number of new features and improvements. The construction obviates the danger of the corroding action of the dye liquor on the parts of the machine. The springs that are ordinarily used have been eliminated from the device which rotates the supporting sticks. This reduces the liability of interrupting the dyeing process and causing imperfect dyeing of the yarn.

One of the important features of the improved machine consists in an escapement dog associated with the advancing mechanism for rotating the sticks, which support the skeins of yarn, whereby the sticks may be rotated periodically and held without the use of springs, which require constant renewing. There is an improved adjusting mechanism for the inner series of supporting sticks, operative simultaneously to adjust all the inner stick bearings with relation to the outer series of sticks. This mechanism has no removable securing parts, and is actuted by a removable wrench affording a cool operating handle for the operator. An improved trip device is provided for changing the position of the yarn on the sticks, making it possible to move the sticks in the reverse direction without damage to the parts. An improved form of supporting stick can be more easily cleaned and has no tendency to absorb the dye. Improved

bearings for the sticks give an increased length of stick available for supporting the work, enabling a larger load to be dyed at one time in the machine.

These and numerous other features of the machine contribute to the convenience and efficiency of operation. Fig. 1 is a vertical cross-sectional view of the machine. Fig. 2

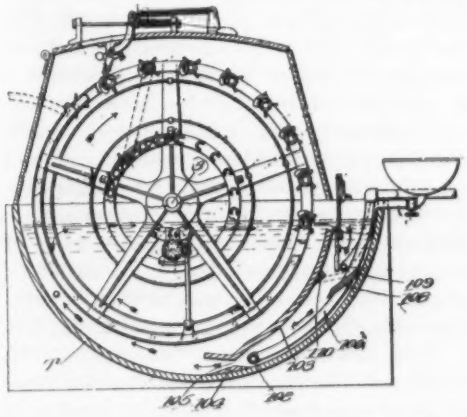


FIG. 1 A VERTICAL CROSS-SECTIONAL VIEW OF THE MACHINE.

is a vertical longitudinal sectional view of the machine.

Upon each revolution of the sticks it is desirable that each shall be rotated sufficiently and independently on its own axis to change the position of the yarn so that a different portion of the skein will be in contact with the stick during each revolution. This is necessary as the portion of the yarn in engagement with the stick is protected from the dye, so that to continue the engagement of the same portion of the skein with the stick for a length of time will prevent the uniform absorption of the dye by that portion. To change the position of the yarn it has been customary to turn the outer sticks at each revolution of the reel, but the means heretofore employed for that purpose have required the use of springs in their operation, which, under the peculiar conditions present, are undesirable and defective, because the springs, which for purposes of strength and resiliency are of steel or bronze, are subjected to the action of the dye liquor with the result that they are soon ruined by corrosion. Frequent renewing of the springs is therefore required, causing trouble and expense.

The improved device for advancing the yarn on the sticks covered by this patent operates without the use of springs, nor can there be any danger of a return movement of the sticks in any position, thus insuring positive action and overcoming any tendency of the stick returning under the reaction of the yarn owing to its stretched condition with consequent danger of stick marks.

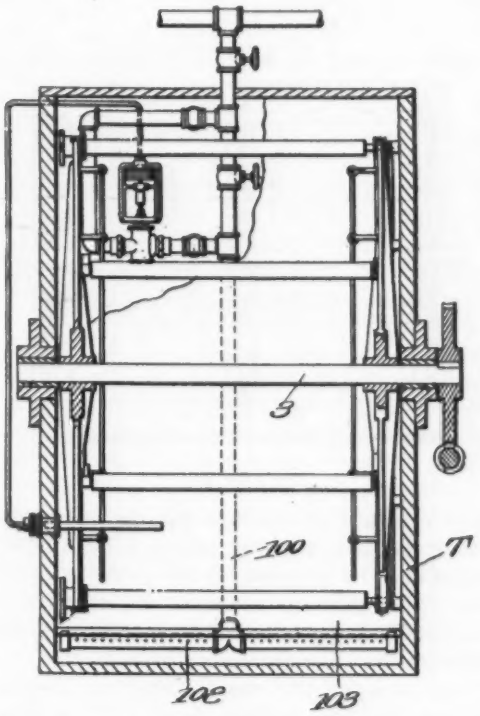


FIG. 2 A VERTICAL LONGITUDINAL SECTION OF THE MACHINE.

An improved construction for promoting and controlling the circulation of the dye liquor is shown in Figs. 1, 2 and 3. The dye liquor may be heated by a steam jet introduced through a central feed-in pipe, 100, and longitudinally arranged distributing pipe, 102. The dye tub, T, is of curved form and the shaft, 3, is supported at one side of the central axis. At the opposite side is arranged a curved partition board, 103, with its upper edge slightly below the level of the

liquor and having its lower portion arranged, with an inclined base board, 104, to form a contracted opening, 105, communicating with the space behind the partition. The entrance to the opening, as shown, desirably may be flared. The steam distributing pipe, 102, is arranged immediately behind the opening, 105, and has openings to direct the steam toward the openings, heating the liquor and establishing a desirable circulation of the dye liquid, more evenly to distribute the dye. The circulation so effected will be seen to be in a clockwise direction as indicated by arrows in Fig. 1, the liquor moving to the rear at the bottom of

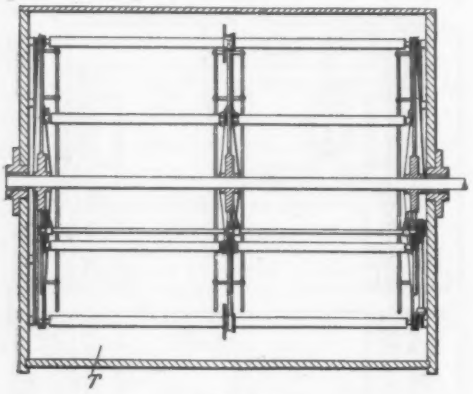


FIG. 3

the tub and at the top passing forwardly over the partition, 103, and downwardly behind it. The pressure of the steam as it enters the bath will maintain this circulation and in so doing is assisted by the paddle action of the yarn entering the bath.

To prevent the steam under a lowered pressure from rising behind the partition and tending to oppose or reverse the circulation, there is provided the check valve, 108, hinged at 109. This valve, 108, in the event of an upward flow within the passage behind the partition, will close against a stop, 110, with the result that steam rising behind the partition will build up a pressure forcing the liquor out through the opening to reestablish the proper circulation.

Those interested in examining in greater detail the special features of this invention may obtain a copy of the patent upon application to the company.

THE DYESTUFF PROBLEM IN ENGLAND

From the Manchester Guardian

A great deal hangs on the action of the two Committees that are now considering the question of dyestuffs supply, Lord Haldane's Committee and the Dyers' and Colorists' Committee, and it is expected that their reports will be followed by the formulation of some definite policy. The chairman of the Dyers' and Colorists' Committee is W. H Pennington, whose personal experience of the modern dyeing trade is almost the trade's history. Mr. Pennington, in discussing some aspects of the question, made several interesting observations on matters that have been treated in the correspondence columns of the "Manchester Guardian." He pointed out the great danger of underestimating the force of German competition that a new English dyestuff industry would have to meet after the war. The story of the British manufacture of a well known chemical used in dyeing is one of the most interesting indications of how effective the competition of the big German firms has been, and would be again. This particular compound was formerly made by a British firm, which supplied itself and some other home firms, and produced enough to prevent, at least, the German firms from exercising monopoly rights. The German firms met and discussed the situation and came to an agreement for the concentration of their production, instead of leaving it distributed among the various works. The effect was, of course, to economize considerably on the production costs. Then they interviewed the British firm, asked that it should cease to manufacture, and offered to it certain advantageous terms—to wit, a sufficient supply for its own use at a considerable reduction on the standard price, a considerable cash subsidy, and a generous price for the scrapping of its manufacturing plant. The offer was accepted—it could hardly have been refused, for the German firms could easily have undersold the English production, as they did in the case of beta-naphthol—and the Germans, having once secured themselves in the monopoly, fixed prices to suit their own convenience.

The manufacture of this product is not the only, nor by any means the most important, of the British chemical industries that have been uprooted by the Germans. The classical case is, of course, the case of the aniline industry itself, which was established in England, as everybody knows, by the elder Perkins, and captured by Germany through the superior organization and foresight of German firms; and the present position of the German dyestuff trade has been built up on that foundation. Besides these cases Mr. Pennington was able to provide out of his experience several other illustrations of the effectiveness of German methods. They are worth a good deal of consideration. The process which follows laboratory production of a new color in a German works is as follows: In the first place a quantity is made in the laboratory for use in the experimental dye house and is sent out to the firm's agents afterwards, at home and abroad, with all the information that can be given as to its qualities and application. It is taken out by the agents and laid before their principal customers, who make experimental applications of it and are then canvassed for their opinions and observations. These opinions are put together at the firm's headquarters and discussed, and upon them the decision is made as to whether or not the particular dyestuff shall be produced commercially. If the commercial production be determined upon, then the chemist who produced it in the first place is given charge of the manufacturing process and the product is taken into the general selling organization.

Mr. Pennington illustrated the efficiency of the selling organization of the German chemical firms. It goes far beyond the English commercial idea of a selling organization,, for it is closely attached to an intelligence department that covers the world. The mere technical literature of the large German color firms is a matter of astonishment. They send out to their customers volumes of instructions for the use of their dyestuffs. These are done so thoroughly that they count as first-class text books on dyeing, and some of them are, in fact, standard textbooks on particular branches of dyeing. They contain generalized results of all the available dyeing practice, and they compare majestically, so to speak, with the smaller publications of the English color firms. The German system goes even beyond this. The current experience of all users of any of the dyestuffs supplied by the firms is collected and arranged, and every user is invited, in case he should find himself in any technical difficulty, to apply to them for help. It is nearly always found possible to get advice or suggestions or help of some kind from their collected experience of dyeing problems and difficulties in every branch of the industry all over the world.

Of itself, the fact that a dyeing firm, by dealing with German firms, had such powerful assistance at its back would provide it with a good reason for dealing with German rather than with the English color firms, even if all other things were equal. It would be absolutely necessary, Mr. Pennington said, that the organization of an English industry should be undertaken as thoroughly as this if it were to have any chance of competing with the German. To enable any such industry to get a start, he thought it would be necessary also that it should have some form of help from the Government. "Personally," he said, "I am and always have been a strong free trader, but I think that in this case, in order that the capital of the new industry should not be swept away at the end of the war by the renewal of German competition, a system of import duties, or its equivalent, should at least be considered. There is, of course, a great objection to import duties. No amount of argument would prevent other industries from asking for protection, once you had conceded it in one case. For that reason some other means, if they could be found, would be preferable. Possibly some form of Government subsidy could be devised to meet the case. If it could be ascertained that a Government subsidy really would have the necessary effect then that would avoid many difficulties and would be a good deal better."

The first application by the Board of Trade under the Trading with the Enemy Act, 1914, was heard by Mr. Justice Warrington in the

Chancery Division yesterday. It referred to the works of Meister Lucius and Bruning, Limited, chemical manufacturers, at Ellesmere Port. The Board of Trade desired the Court to appoint a controller of the business during the continuance of the war, and also to lay down a rule with regard to similar applications in the future.

Mr. Austen-Cartmell, representing the Board of Trade, said the company was incorporated in 1901 to carry on the business of manufacturers of dyes, dye-ware, oils, paints, and things of that sort, and to buy and sell the same. At the outbreak of the war the position of the company was that there were 7,000 shares of £10 each, of which 6,988 were held by German subjects resident in Germany. The secretary of the company, who acted as manager in England, was a naturalized British subject. The assets consisted of a factory at Port Ellesmere, where 50 or 60 persons were employed in the manufacture of synthetic indigo dyes. At the outbreak of the war the company was doing a large trade in the United Kingdom not only with the general public but with Government contractors. There was a large sum at the present time standing partly to the credit of the manager at a bank in Manchester. There were stocks of dyes, and several contracts pending for the supply of synthetic indigo to Government contractors and to members of the general public.

The manager of the company had informed the Board of Trade that since the outbreak of the war he had received instructions indirectly to close the factory. The Board of Trade was satisfied, and the Secretary of the Board, Sir H. Llewellyn Smith, had sworn that the control or management of the company had, in the words of the Act, "been, or was likely to be, so affected by the state of war as to prejudice the effective continuance of its trade or business, and that it is in the public interest that the trade or business should continue to be carried on." In these circumstances the Board of Trade under the section of the Act now applied to the Court for the appointment of a controller of the company.

The judge, in giving his decision, said an application of this kind should in future be made by motion. The Board of Trade should then produce certain evidence. In the present case there was the statement of the Permanent Secretary of the Board of Trade that it was in the public interest that the business should be continued. In all such cases one must take as sufficient evidence such information as the officials of the Board had been able to obtain. The Board of Trade asked for the appointment of Sir William Plender, and he (the Judge) would appoint Sir William as from Sept. 18, 1914, to receive and take possession of the assets of the company and manage and carry on the business, with the powers of a receiver and manager, subject to such modifications, restrictions, or extensions as a Judge in Chambers might from time to time direct. The controller should make reports every three months as to the position of the business, the first report to be made on Jan. 30, 1915.

NATURAL DYES AS SUBSTITUTES FOR COAL TAR COLORS

BY CHROMIUM

(Continued from November.)

FUSTIC

This yellow dyewood still keeps its own for fast wool dyeing, and is a useful dye for compound shades of all sorts. While the alizarine dyes give reds, navy blues, slates, and greens, which cannot or have not been improved upon, there has been no yellow element in compound shades such as bronzes and bloomy browns which is equal to fustic. It is doubtful whether there is any yellow which has a well-founded claim to be called alizarine, and acid mordant or chrome yellows would be more correct. Although a few of the competitors of fustic will work on from a neutral bath, full value is never got from them without the use of a little acid, while pure alizarines are cleanest and most satisfactory when dyed neutral. Fustic dyes best neutral or slightly alkaline, and as for milling in soap, fustic is as good as any color whatever—yellow or otherwise—and is much superior to most of the mordant yellows. It stands milling for hours with

scarcely any diminution of shade ,and will not stain contiguous white wool or cotton, mercerized or otherwise. Fustic also stands steam-blowing or potting, and boiling water will not cause it to bleed, while boiling soap after clearing away the mechanically loose colors, only causes a mere trace of bleeding on the boiling being prolonged. On account of this fastness to alkalies and boiling water, together with its low price, is the reason why it is so largely used with logwood for black, and for a dyer to use mordant yellows in place of fustic is to take risks needlessly. So far as standing light is concerned it is certainly above the average, and stands well alongside its competitors. Strong acids quickly strip the color, so by reason of this it is not adapted to stand cross dyeing, or an acid shrinking process, but as these are not every-day requirements, its looseness to acids is only a small fault. The common leather, bramble and privet, all carry a yellow dye very similar to fustic, but none of them have been used commercially.

THE REDWOODS

These mordant dyes will be made use of to tide over the scarcity of anilines, particularly the faster ones which can be used for compound shades. The series, some of which have been out of use for years, are divided into two classes: 1st, those which are easily soluble in water, and which consequently give fugitive shades, such as Brazilwood, peachwood, Sapan and Lima wood. The second class embraces Saunders, Barwood, Carnwood, Kambra, and Caliatura wood. The coloring matters of the two groups are quite distinct, that of the first dissolving readily in the bath, while the second group containing the principle Santaline consists of colors which are quite insoluble in cold water and only barely soluble in hot. For this reason dyes of the second class must be applied at a vigorous boil, otherwise the value will not be got out of them. The following are a few recipes for using these old wood dyes.

Yellowish brown on 328 lbs. wool. Mordant for an hour at the boil with 6 1/2 lbs. chromate of potash, 2 lbs. sulphuric acid, 4 1/4 lbs. alum, 8 oz. oxalic acid, and 4 1/2 oz. tin crystals. Dye in a bath containing 98 lbs. fustic, 4 lbs. logwood, 32 lbs. turmeric, and 27 lbs. madder. After boiling for an hour, cool, and sadden in the same bath with 2 lbs. copperas, and 1 lb. copper sulphate, boiling for an additional 15 minutes longer.

For a brown on 100 lbs. of worsted the following recipe is given:

Mordant first with 2 lbs. bichromate of potash, 2 lbs. argol, and 1 lb. tin crystals, boiling for two hours and then washing. In a fresh water boil for an hour in a bag 10 lbs. redwood, 40 lbs. fustic, and 4 lbs. logwood. Take out the bag and then add 10 lbs. cutch, 10 lbs. camwood, 16 lbs. madder, and 2 lbs. argol. Let this boil for 15 minutes, then cool, enter the goods and boil for an hour. Saddening was done by cooling, lifting the goods, and adding 2 lbs. each copperas and bluestone, giving the cloth another 15 minutes' boil. Many of the old recipes mention turmeric, but it is hardly likely this will be used again, as there are plenty of good yellow woods, and turmeric shades are extremely fugitive to light. Fustic, camwood, barwood, Sanders, madder, catechu, and quercitron bark can all be used, and will supply fairly fast reds and yellows which must be applied on a mordanted ground. Archil and cudbear, although not used to the extent they were formerly, are still employed for browns, purples, blues, etc., on wool. They are not fast to light but level up remarkably well.

OTHER YELLOW DYES

Young fustic is the wood of a shrub known as rhus cotina, common to the West Indies, France and China. It contains much tannin matter besides the yellow principle, and according to the mordant used will give shades varying from bright yellow to fiery orange. The bichromates are not suitable as mordants, the brightest shades being got by tin crystals or stannic chloride (tin spirits). The colors obtained from young fustic are not fast to light, but stand scouring well. Quercitron bark also gives a range of useful yellows, the tree being a species of oak growing in America, and known as "Quercus tinctoria."

(To be continued)

Dye Recipes

The following recipes appear in the Dyers' Supplement, which is issued each month by the TEXTILE WORLD RECORD. The Supplement contains the colored samples, dyed according to recipes given. The selection of samples is carefully made, and it is the aim to show shades which are of especial interest to the dyer, and which the requirements of the market demand. The Dyers' Supplement is a 16-page pamphlet, in convenient form for preservation. Subscription price for the Dyers' Supplement $1.00 per year.

Recipe No. 134

GREY ON WORSTED DRESS GOODS

Grey on 100 lbs. worsted dress goods. Prepare the dye bath containing:

5 ozs. 400 grs. Amazo Blue.
(American Dyewood Co., 80 Maiden Lane, New York City.)
4⅘ ozs. Amazo Brill. Red 2B.
3 ozs. 367 grs. Amazo Fast Yellow LR.
20 lbs. Glauber's Salt.
2 lbs. Oil of Vitriol.

Enter at 120° F., bring to boil and boil 1 hour. Rinse.

The colors used above are recommended for their fastness and all round good dyeing properties for all classes of wool dyed by the sour method.

Recipe No. 135

BLUE ON WORSTED DRESS GOODS

Blue on 100 lbs. worsted dress goods. Prepare the dye bath with:

2 lbs. 3⅕ ozs. Amazo Violet 4BO.
(American Dyewood Co., 80 Maiden Lane, N. Y. City.)
12⅘ ozs. Amazo Green G.
20 lbs. Glauber's Salt.
3 lbs. Oil of Vitriol.

Enter at 120° F. Bring to a boil and boil one hour. Rinse.

The colors used to produce this shade are recommended for all classes of sour dyeing on wool

Recipe No. 136

BLACK ON COTTON YARN

Cross Dye Black SBC on 100 lbs. cotton yarn. Prepare the first bath with

12 lbs. Cross Dye Black SBC.
(Read Holliday & Sons, 11 Gold St., New York, N. Y.)
12 lbs. equal weight of Solid Sulphide.
5 lbs. Soda Ash.
40 lbs. Salt.

Then dye in a standing bath of

6 lbs. Cross Dye Black SBC.
7 lbs. Solid Sulphide.
2 lbs. Soda Ash.
10 lbs. Salt.

Recipe No. 137

SCARLET ON COTTON YARN

Ciba Scarlet G on 100 lbs. cotton yarn.. Prepare the dye bath with

8 lbs. Ciba Scarlet G.
(A. Klipstein & Co., 644 Greenwich St., New York, N. Y.)

made into a paste with

1⅔ gals. Caustic Soda, 66° Tw.

and a little hot water. Then stir up the above paste with

30 lbs. Sodium Hydrosulphite Powder

which has been previously mixed with

1⅔ gals. Caustic Soda, 66° Tw., and
13½ gals. Cold Water.

The dyestuff is then reduced by warming the above mixture to 120° F., and the solution which should now have a pure bluish violet color is added to the dye bath through a fine sieve, adding also

60 lbs. Common Salt.

The cotton yarn is entered at 120° F. and worked at this temperature for 1/2 hour, then squeezed, allowed to oxidize in the air 15 minutes to 1/2 hour. The goods are then thoroughly washed in cold water and developed by treatment for 15 to 20 minutes with a bleaching powder solution, .7 to 1.4 per cent. Then rinse and neutralize in a weak sodium bi-sulphite bath.

Ciba Scarlet G possesses excellent fastness to chemicking, alkalies, and also good fastness to light.

Recipe No. 138

BLACK ON COTTON YARN

Cross dye Black JNS on 100 lbs. cotton yarn Prepare the first bath with

12 lbs. Cross Dye Black JNS.
(Read Holliday & Sons, 11 Gold St., New York, N. Y.)
12 lbs. equal weight of solid Sulphide.
5 lbs. Soda Ash.
40 lbs. Salt.

Then dye in a standing bath of

7 lbs. Cross Dye Black JNS.
7 lbs. Solid Sulphide.
2 lbs. Soda Ash.
10 lbs. Salt.

Recipe No. 139

GREEN ON WORSTED YARN

Alizarine Cyanine Green E F on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Alizarine Cyanine E F.
(The Bayer Co., 117 Hudson St., New York, N. Y.)
20 lbs. Glauber's Salt, Crystal.
5 lbs. Acetic Acid.

Enter at 120° F., raise slowly to boil and boil until the bath is exhausted. In case bath does not exhaust well, add a little more acetic acid.

Cool bath a little, then add

1½ lbs. Potassium Bichromate

and continue boiling 3/4 of an hour.

Alizarine Cyanine Green E F may also be applied on a chrome mordant, or by the monochrome process.

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Recipe No. 140

ONE DIP LOGWOOD BLACK ON COTTON

Logwood Black on 100 lbs. cotton yarn. Prepare the dye bath with

20 lbs. Logwood Extract.
(A Klipstein & Co., 644 Greenwich St., New York, N. Y.)
6 lbs. Acetate of Copper.
4 lbs. Blue Stone.
4 lbs. Soda Ash.

Enter bath at ordinary temperature, bring slowly to boil, and dye at a boil for one hour. Wring, expose to air several hours, and finally wash.

Logwood Black may be produced in one bath by the above method.

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Recipe No. 141

BROWN ON COTTON YARN

Oxamine Light Brown R on 100 lbs. cotton yarn. Prepare the dye bath with

3 lbs. Oxamine Light Brown R.
(Badische Co., 86 Federal St., Boston, Mass.)
20 lbs. Glauber's Salt, Crystal.

Enter at 180° F. and dye at a boil for one hour.

Oxamine Light Brown R possesses the general properties of the direct cotton colors.

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Recipe No. 142

BLUE ON COTTON YARN

Naphtamine Brilliant Blue G on 100 lbs. cotton yarn. Prepare the dye bath with

2 lbs. Naphtamine Brilliant Blue G.
(Kalle Color & Chemical Co., 530 Canal St., New York, N. Y.)
40 lbs. Glauber's Salt, Crystal.

Enter at 180° F. and dye at a boil for one hour.

Naphtamine Brilliant Blue G possesses good coloring power, and in general the properties of the direct cotton colors.

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Recipe No. 143

BROWN ON COTTON YARN

Direct Brown G O on 100 lbs. cotton yarn. Prepare the dye bath with

2 lbs. Direct Brown G O.
(Innis Speiden & Co., 46 Cliff St., New York, N. Y.)
20 lbs. Common Salt.

Enter at 160° F. and dye at a boil for one hour.

Direct Brown G O possesses reasonable fastness and the general properties of the direct cotton colors.

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Recipe No. 144

RED ON WORSTED YARN

Guinea Fast Red 4 B L on 100 lbs. worsted yarn. Prepare the dye bath with

3 lbs. Guinea Fast Red 4 B L.
(Berlin Aniline Works, 213 Water St., New York, N. Y.)
4 lbs. Sulphuric Acid.
15 lbs. Glauber's Salt.

Enter at 140° F. and dye at a boil for one hour.

Guinea Fast Red 4 B L possesses excellent fastness to light.

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Recipe No. 145

BLACK ON COTTON YARN

Zambesi Black O B A on 100 lbs. cotton yarn. Prepare the dye bath with

6 lbs. Zambesi Black O B A.
(Berlin Aniline Works, 213 Water St., New York, N. Y.)
30 lbs. Glauber's Salt, Calcined.
2 lbs. Soda Ash.

Enter at 180° F. and dye for one hour at a temperature of about 200° F.

Then diazotize by working for 20 minutes in a cold bath made up with

3 lbs. Sodium Nitrate.
6 lbs. Sulphuric Acid, 168° Tw.

Rinse and develop by working for 20 minutes in a cold bath made up with

14 ozs. Toluylene Diamine Base.
1¼ lbs. Soda Ash.

Wash, soap and dry.

Zambesi Black O B A possesses very good fastness to washing when dyed in the above manner.

Knitting Department

THE KNIT GOODS SITUATION

Many of the fall lines of underwear and hosiery are ready for inspection and in a very short time all lines will be open. The western salesman will start out with a hopeful feeling, while the southern men will not be so optimistic regarding this trip, they feel that they must show their lines at the buyers' homes, where the latter have a much better opportunity to determine the value of the merchandise,,the average buyer not having time when he comes to New York to look at everything. The salesmen will be burdened with more samples on this trip than ever before, as they will be obliged to take with them their spring as well as fall lines, on account of the number of people that have either not bought their spring goods or have placed only a part of their orders.

The export business has helped such mills as make flat fleece, medium and low grade wool underwear, wool hosiery and sweater coats. As the requirements for foreign countries are mostly for immediate or nearby deliveries, there will be plenty of merchandise for home consumption. The present opportunity of selling our goods in places where they have never before been seen is a golden one. If manufacturers realize this, it may prove to be a regular outlet. If at this time when the warring nations have no one else from whom to get supplies, we take undue advantage by making our goods inferior and advancing the price whenever possible, we will lose these new fields for our products.

The buyer who is in a position this year to profit by cash price on fall underwear or who places his orders and takes early deliveries with a short date, will have a greater advantage than ever before as some very attractive prices are being made by manufacturers who need business or early deliveries either for cash or short date.

Cotton goods show a marked reduction, but the woolen and worsted lines have either advanced, or where they have reached the limit in price, manufacturers are reducing the quality so as not to interfere with the selling price.

The southern buyer has cancelled as many orders for spring underwear and hosiery as he could. Unless a good portion of these cancellations is reinstated, it will be a hardship on the mills, from the effects of which some will not recover for several seasons. There is hardly an article that goes into the manufacture of knit goods that is not contracted for in advance and none of these can be cancelled by the manufacturer. When spring prices were made exerything pointed to a firm market, and manufacturers as well as buyers operated for a good part of their requirements for the spring season. Imagine a manufacturer going to a yarn man and trying to cancel an order. His answer would be that the yarn would be delivered and paid for as ordered and nothing but a receiver can change that decision.

Now that cotton in the South is moving even at a low price, the retailer will begin paying his bills and buying new stock. A few of the manufacturers of underwear and hosiery reduced their prices on all orders they had on their books. This was done in some cases to get assortments on blanket orders, which they feared they would not get if they did not reduce their prices. The balance of the manufacturers agreed to stand by their opening prices, realizing a reduction would not bring any new business, but would mean their taking a loss of thoustands of dollars in addition to the loss they sustained where they felt obliged to accept some cancellations.

Let us all hope that the South realizes and appreciates what has been done for them. Cancellations have been accepted and extensions given to all who asked for them and who could satisfy the manufacturer or agent that they needed this help. This has been taken advantage of by a few

not entitled to assistance. There has been some bitter feeling betwen both contracting parties since August first. In many instances in making requests for cancellations by letter, the writers did not seem to understand what impression these letters would make the next day. When both the parties meet on the home ground, in the city of either the buyer or the seller, a good heart to heart talk brings them both to themselves.

Our emigration has been materially reduced and is bound to have an effect upon the consumption. There will be several hundred thousand less arriving in this country on account of the war and even afterwards the effort of the various countries at war will be to hold all of the people that are left at home.

The manufacturers of balbriggans and summer ribbed underwear are suffering from the increased production of nainsook underwear. As this class of underwear can be made in a very small plant and with a comparatively small investment, the production will continue to increase rapidly as the demand grows larger. Almost every large city in the United States has a plant making this class of underwear. Balbriggan manufacturers as a whole should combine and start an advertising campaign educating the people to the advantages of summer knit underwear over the nainsook.

So many balbriggans are made to fit a price that they are not made full sizes. As a result they do not give satisfaction to the wearer. Many consumers do not know that they can get a knee balbriggan or rib drawer or union suit of the same cut as nainsook. They all ask for a knee drawer or athletic union suit and are shown a nainsook.

One of the main troubles with a good many of the mills is that they attempt to make too many styles. The operators no sooner get down to perfection on one style than they are switched to another. This results in seconds being made while the operatives are getting accustomed to the new line.

For some time past manufacturers have had a high cotton and yarn market, but competition has held the prices down on finished products. Now is their opportunity to make a reputation as they can get a good quality of either cotton or yarn at a price that will enable them to make attractive goods at an attractive basis for both the buyer and seller.

THE "PARAMOUNT" METAL FORMS FOR HOSIERY

In the manufacture of hosiery success depens, not only on the use of the right kind of yarn and the right construction of the stocking, but also on the manner in which the goods are finished. In spite of its importance, however, the finishing process has lagged behind other departments of hosiery manufacturing as regards the improvement of methods and appliances. The method of boarding and drying hosiery supplies an illustration of this fact. With the object of remedying this shortcoming, the Paramount Metal Form Drying Co., Beaver Dam, Wis., have patented and placed on the market a metal form for drying hosiery which offers important advantages over previous methods. The metal form is hollow with the same circumference and outline as the usual wooden board, the sides being convex instead of flat and the edges meeting at an acute angle. It is heated by steam introduced into the interior, pressure being regulated by automatic valves and the temperature kept uniform.

The forms are mounted upon a table inclined from the operator at the angle best suited for rapid work. One of the advantages is an economy in steam. No expert operators are required for handling the boards, inexperienced hands becoming proficient in a short time. Mill tests show that with the new form a production of one hundred and fifty to two hundred dozen per employee per day can be readily obtained as compared with a total production of sixty-five to one hundred dozen with the old methods.

The forms and tables being entirely of metal there is nothing to wear out or break. The difficulty with the shrinkage of board forms is entirely obviated. The metal form is left unpolished on the upper part of the

leg, holding the stocking in place while drying and thus ensuring uniformity of length. The forms are always clean and ready for use, which is an advantage in the drying of bleached, light colored and black goods, as it is not necessary to clean the boxes when changing from one color to another. The sanitary conditions and appearance of the work rooms are greatly improved owing to the absence of drying boxes which shut out both light and air. The Paramount metal forms do not interfere with the free entry of light and air and the temperature of the boarding rooms is greatly reduced. All shafting, pulleys and fans are eliminated making an important economy in equipment.

AN IMPROVED STOCKING

The construction of the stocking shown in the illustrations is the subject of a recent patent and is described by the inventor as follows: The general custom in the formation of heels for stockings is to extend the latter quite high and up the back of the leg portion by making a reinforced portion or portions in which the intersecting wales of the regular knit portion of the fabric and the reinforced portion of the fabric ran parallel to each other and for the entire height of the heel portion. This produced a reinforced heel formation which ended abruptly at the top in a square-cut line of intersection between the reinforced heel portion and the regular knit portion which was very unsightly.

One object of the new construction is to produce a stocking having a reinforced heel portion which gradually intersects the regular knit portions of the stocking. Another object is to produce stockings having various designs formed by the variation of the lines of intersection between the reinforced heel portions and the regular knit portions. A still further object is to produce stockings in which a reinforced heel portion as just described will merge into a reinforced selvage adjacent to the rear seam.

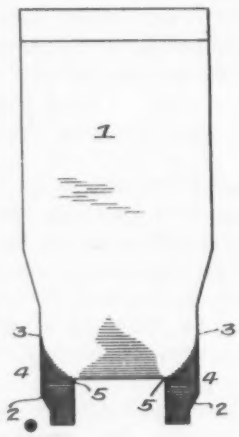


FIG. 1

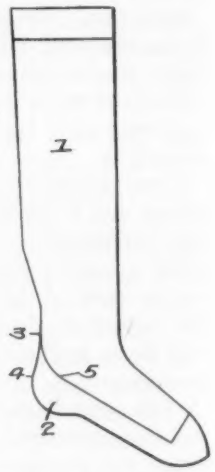


FIG. 2

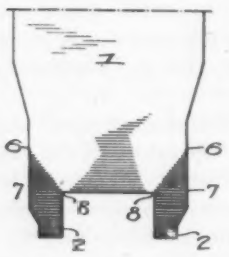


FIG. 3

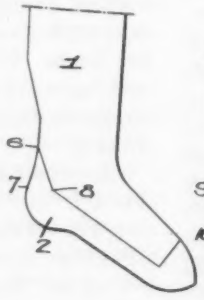


FIG. 4

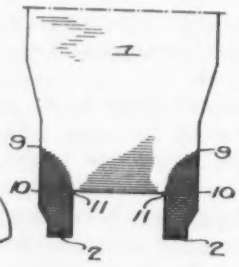


FIG. 5

FIG. 6

Fig. 1 shows the full fashioned leg and heel in a flat state. Fig. 2 is the stocking made from the fabric shown at Fig. 1 and having the foot added. Figs. 3 to 14 show various lines of intersections between the reinforced heel and the knit leg. The knit leg has the reinforced knit heel, 2, the latter being lined with heavy lines in the direction

of the courses and consequently at right angles to the wales; the wales not being indicated on the drawings. The course of the reinforced portions are short, as shown at 3, and gradually become longer until they reach the point, 4. The variation in the length of successive courses is such as to produce a concave-curved line of intersection, as shown from 3 to 5, between the reinforced portion and the regular knit portion.

In Figs. 3 and 4, the courses of the reinforced portion at 6 are short and gradually become long until they reach the part as indicated at 7. The variation in the length of the lines as shown in these figures is such that the line of intersection between the reinforced portion and the regular knit portion will form a straight inclined line as shown from 6 to 8.

In Figs. 5 and 6, the courses increase in length from the part 9, to the part 10, and the line of intersection between the reinforced knit portion and the regular knit portion forms a convex-curved line as shown from 9 to 11.

Figs 7 and 8 show the courses increasing in length from 12 to 13 and the line of intersection between the reinforced portion and the regular knit portion is in the shape of a step formation in which a line connecting the projecting corners will be inclined to the courses and wales of the fabric. The lines forming the step will run respectively parallel and at right angles to the line of the wale and the courses. The lines of intersection as shown at 15 will run parallel to the wales and consequently at right angles to the courses, and the lines, 16, will run parallel to the courses and consequently at right angles to the wales.

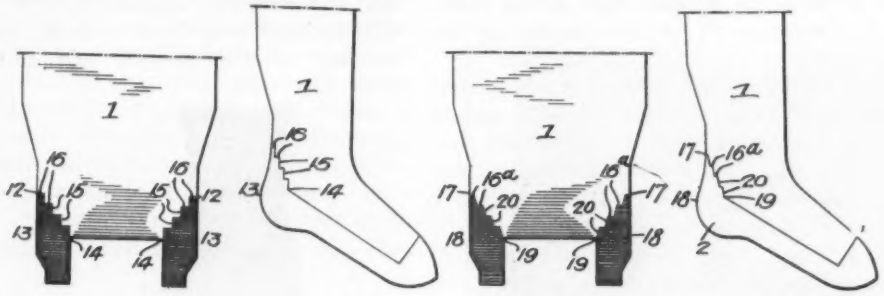


FIG. 7 FIG. 8 FIG. 9 FIG. 10

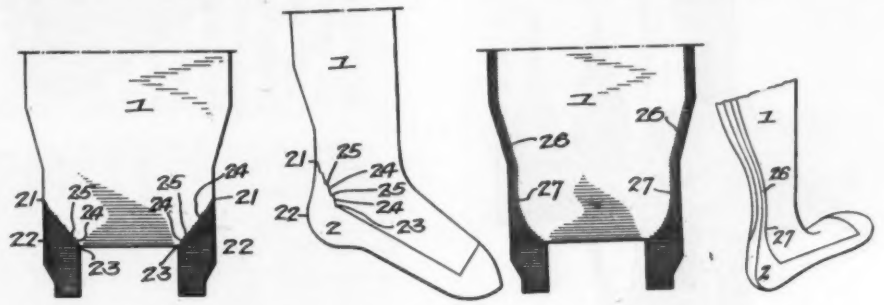


FIG. 11 FIG. 12 FIG. 13 FIG. 14

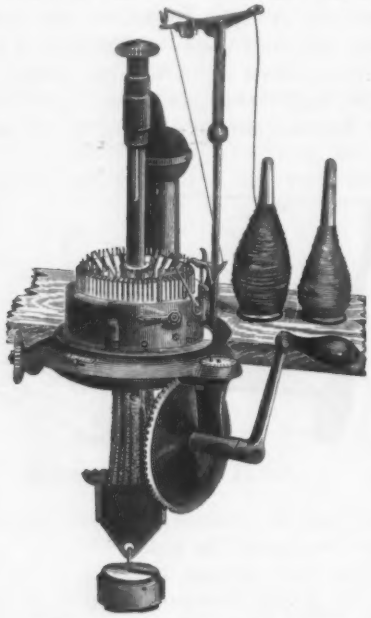
The form shown in Figs. 9 and 10, also shows a step formation and is produced by increasing the length of the courses from 17 to 18, the latter being such that a line from 17 to 19 connecting the outer corners of the steps will run at an incline to the wales as will also the lines, 20, of intersection between the reinforced portion and the regular knit portion. The other lines, 16a, forming the step will run parallel to the courses similar to the line, 16, in Figs. 7 and 8. In Figs. 11

and 12, a step formation is shown as forming the line of intersection between the reinforced portion and the regular knit portion. In this case the courses increase in length from 21 to 22 and a line connecting the outer corners of the step formations from 21 to 23 will run at an inclined angle to the wales. In this formation all the lines, 24 and 25, are inclined to the wales and the courses.

Figs. 13 and 14 show a heel formation similar to that shown in Figs. 1 and 2 and in which the curved line of intersection between the reinforced portion and the regular knit portion merges and blends at 27 into a reinforced seaming selvage, 26.

THE TUTTLE KNITTING MACHINE

We do not usually think of Russia as an important market for knitting machinery, but the Lamb Knitting Machine Co.,, Chicopee Falls, Mass., builders of the Tuttle knitting machine, have for a number of years shipped large quantities to Russia.



THE TUTTLE HAND KNITTING MACHINE

It is a hand machine and sells for a very moderate price. The illustrations show the machine and the sock that is knit on it. It is built in two sizes, either four and a quarter inch or four and a half inch diameter and with any desired number of needles in the cyinder that can be divided by the number of needles in the ribber cylinder. This machine makes both ribbed and plain work, binding off the tops, the needles being changed from the rib cylinder to the straight cylinder and vice versa with the stitch remaining on the needles. By this means

A SOCK KNIT ON THE TUTTLE MACHINE

ribbed top socks with plain legs and feet are readily made, also the shaker sock, which has the whole leg and instep ribbed. In fact, the operator can make any part of the sock or stocking ribbed or plain at will.

This is probably the most popular circular machine for home or family use that is now manufactured and its extensive use in Russia is readily understood when one considers the vast extent of that country and the opportunities for home industries in the smaller cities and towns where the operation of large factories has not yet been established. In these war times particularly, when almost every woman in every civilized nation of the world is at work on some kind of knitting for the troops or sufferers, this machine finds special use which accounts for the extra large numbers which have recently been forwarded to Russia.

FANCY KNITTING

BY TRENTON

(Continued from November.)

In connection with the long latch needles, a stitch was made very similar to that of the porous stitch of today. It was a combination of both dial and cylinder long latches, the result being an oblong hole at certain distances. This garment was very light, weighing only 1 1/2 pounds to the dozen, if I remember correctly. It was generally made with a white background, against pink, blue and lavender, or any other color wanted. In setting up a frame for this work care must be taken to grind the cams just

FIG. 1

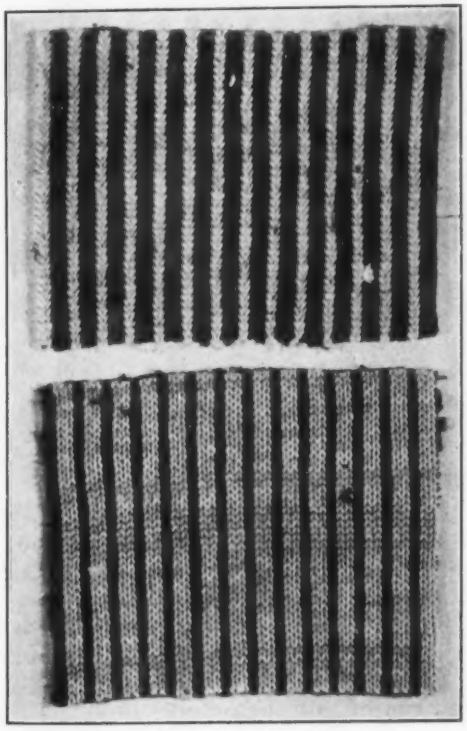


FIG. 2. FANCY KNIT GOODS

enough to hold the long latch needles where the tuck stitch is wanted. The cylinder cams must be ground opposite the dial cams, that is, if a three tuck, one plain is used on the cylinder; the following cam in the dial of the last tuck on cylinder should cast off. The needles will hold the three tucks, either dial or cylinder, but not together. One must cast off after the third tuck, otherwise holes will appear. On an eight feed frame the start should be made from the solid dial cam. This cam is generally under the dial

FIG. 3

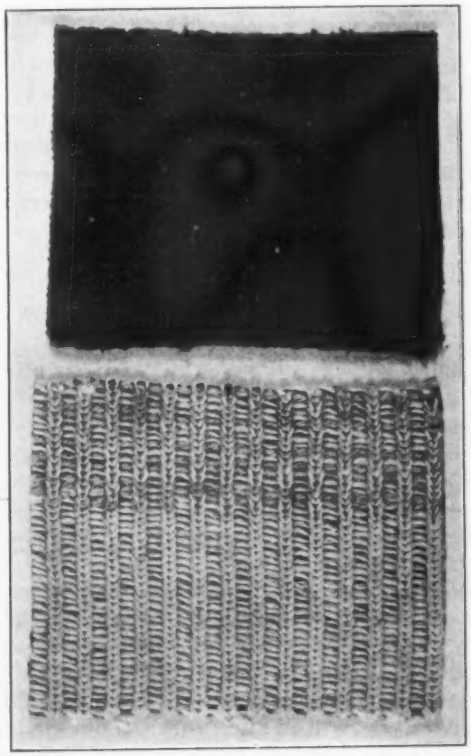


FIG. 4. FANCY KNIT GOODS

levers and is a fixed one which cannot be changed.

Beginning with this cam, count it a cast off, tuck next three by grinding enough to hold the long latches, leave next plain to cast off and grind next three; this leads up to the fixed cam to cast off. The two cylinder cams between the three dial tuck stitches are to be ground next, the first and last. That will make four cylinders and six dial cams to be ground for the long latch tuck stitches. The other cams are not to be touched. The take-up is to be drawn lightly and the dial stitches pulled back enough to clear. It must be remembered in all cases that the strain on the long latch stitches is

more than doubled and care should be taken that the fabric is run as slack as possible in the take-up.

If the pin holes in the fabric seem out of proportion or of different shapes, give a quarter of a turn to all the cylinder cams that make the tuck stitches. This will ease the long latch stitches and, provided no tension is used on the yarn, will help to cast off.

A stitch sometimes used on a cheap grade of men's underwear was made on latch needle frames by leaving out every other dial needle and made plain or straight tuck stitch. On the tuck stitch various patterns were made by colored yarns, a black and white, Fig. 1, or a gray and black, Fig. 2. This tuck stitch was used on the toboggan and skating caps of a few years ago. If a black yarn was used to cover the red on the tuck stitch, a black vertical strip against a red ground was the result. When slightly stretched the stripe was more pronounced, as shown at Fig. 3. A variation of this was made by reversing the colors, Fig. 4. For instance, a chain could be arranged to change colors at certain lengths, or rather have a band of the opposite colors form a finish stitch of what was being made. In the toboggan caps, the cap part was a black stripe with red ground, and the end of the cap that folded or doubled around the head would have the colors reversed, Fig. 6, or a red stripe on a black ground. In the old style sweaters the fold at the bottom would be of reversed colors, Fig. 5.

This grade of goods must be sold at a low price, so a cheap yarn was used, especially when in colors. In all white a carded yarn was used to cover a very cheap shoddy. It was made up with two buttons, cotton collarette and facing with a colored tape binding around the collarette. This was also made in a double tuck stitch with every other dial needle out. This double tuck stitch needs no explanation as every knitter knows how to tuck two, cast off two on the modern knitting frames.

The pineapple, bird's eye or basket stitch is used more or less by the novelty knitters on all kinds of fancy knit goods, such as infant's socks, mittens and caps. These goods are sometimes made on special machines, but the eight feed circular machine that is fitted with four, six or eight chains, changing both dial and cylinder cams, is suited to nearly all requirements. The pineapple stitch is somewhat different from the bird's eye or basket stitch. The fabric shown at Fig. 6 could be used for sweater coat racking as it is firm, does not stretch and when doubled makes a fine solid buttonhole stay.

FIG. 5

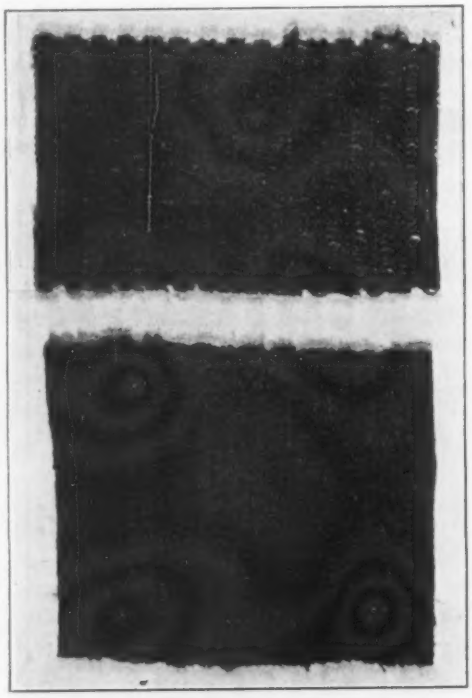


FIG. 6. FANCY KNIT GOODS

I made this fabric about ten years ago and predicted that men's outer clothes would be made from it. For the past six months a firm in Pennsylvania has been making an outer garment that is practically the same as this. I first made this fabric with an extra thread run in with the outside thread on a two feed machine. This extra thread was heavy and of any color wanted. It did not show on the face, but only helped fill up. A piece of sheet iron like a barrel hoop was fastened to the bed plate with a hole drilled in it for the feed yarn. The cylinder needles only caught it so a special cam was needled. This cam was raised just enough to clear the latches. This was only an experiment, but it did the work required.

New Machinery and Processes

This department is designed to present from month to month a brief mention of new machinery, devices and processes being brought out in this country and abroad, that are of interest to the textile manufacturers. It is not a list of patents but of improvements on the market, the idea being to present to our readers a systematic monthly record of new machinery, etc., of interest to textile mill men.

Whenever possible we endeavor to make a personal investigation of the new machinery and processes described in this department. In the absence of such personal investigation we must necessarily rely upon information obtained from those who control the machines and processes.

We invite machine builders and others to send us such information for this department.

Lickerin Wire. The Saco-Lowell Shops, 77 Franklin St., Boston, Mass., are introducing a point hardened wire for clothing lickerins which is giving excellent results.

Cloth Washer. J. S. Ainley, Huddersfield, England. A machine for washing cloth in the open width. In addition to the ordinary squeeze rolls the cloth passes between a set of endless aprons which, it is claimed, greatly increases the capacity of the washer.

Picking Motion. Ferdinand Liebschner & Son, Frankenberg, Germany. An improved picking motion for looms for which increased durability and efficiency are claimed.

Rag Picker. The Snowden Fiber Machine Co., Ltd., London, England. A machine for picking rags. The stock is delivered by the machine to a number of picking rollers and from which it is carried back by aprons to the main cylinder, thus working the stock over several times.

Friction Motion for Looms. Robert Farnworth, Bolton, England. An improved device for regulating the tension on the warp during weaving.

Shuttle. Joseph Janneyriat, Vienne, Isere, France. An improved shuttle designed to hold the cop firmly on the spindle during weaving.

Spinning Cotton Waste. W. T. Smith & Co., Victoria St. Works, Bolton, England. An improved card for carding cotton waste to be spun on a ring frame.

Imitation Lace. Hermann Sandweg, Langerfeld, Barmen, Germany. An improved loom for weaving effects in imitation of lace.

Shuttle Threader. J. E. Suthers, Batley, England. An automatic device for threading shuttles.

Electric Driven Spinning Frames. The Allgemeine Elektricitaets-Gesellschaft, Berlin, Germany. A device for regulating the speed of spindles on spinning frames driven by electricity.

Pattern Making for Carpets. Gustav Hilligern, Hanau, Germany. A device for making color designs for carpets. Tufts of the material composing the pile are inserted in the holes of a perforated plate to form the pattern desired.

Faller Motion. N. Middleton, Oldham, England. An improved device for controlling the faller motion of mules. It enables the faller to be raised gradually and prevents breakage of the ends.

Buffer for Looms. Charles Walker & Co., Leeds, England, has recently placed on the market an improved buffer for cotton looms. It is adapted for both circular and drop-box looms.

Core Yarn. Paul Simons, Cottbus, Germany. An improved attachment by which core yarn is made on a woolen card.

Cutter for Pile Fabrics. Mechanischen Weberei, Linden, near Hannover, Germany. A double knife for cutting the pile of filling pile velvet and also for cutting thread bare stripes in the goods.

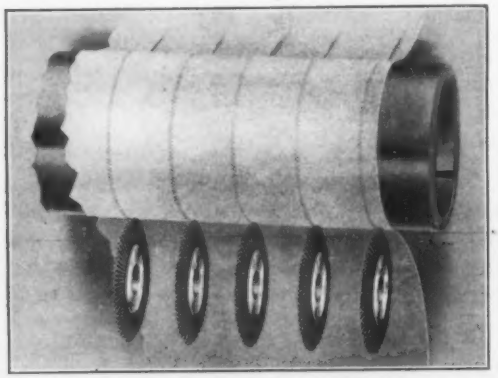
Yarn Cleaning Apparatus. J. Stutz-Mueller, in Kempton, Zurich, Switzerland. An improved apparatus for removing knots and bunches from yarn.

Jacquard Motion for Knitting Frames. G. Hilscher, Maschinenfabrik, Chemnitz, Ger-

Printing Machine. Iwan Orloff, Moscow, Russia. An improved machine for printing multi-colored colors on textile fabrics.

THE CAMERON PROCESS FOR SLITTING AND WINDING STRIPS FOR SURGEONS' BANDAGES AND OTHER PURPOSES

If one considers only briefly the various lines of manufacture in which fabric in the form of narrow or broad strip is used, the list would grow to be a very long one. Although the yardage annually consumed in surgeons' bandages even in normal times is very considerable, it is trifling when compared with the requirements of the clothing trade for such purposes as seam binding, etc., and also for the requirements of manufacturing of automobile tires, typewriter rib-



CAMERON PRINCIPLE OF SLITTING, SHOWING SPECIAL TYPE OF SLITTING WHEELS FOR SURGEONS' BANDAGES

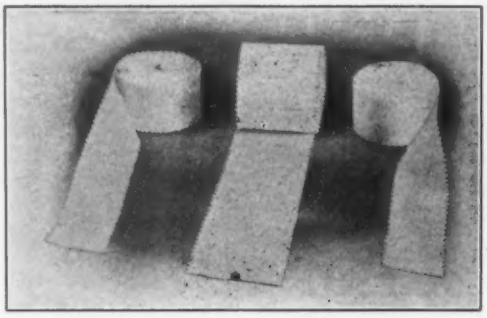
bon, flags, tents, awnings, canvas belting, bagging and one hundred and one other lines calling for cloth in the form of strip. Added to these requirements is the enormous consumption of cloth used for electrical insulation.

The claim of special interest for the process to be described is that by the addition of a single machine to the ordinary finishing plant equipment, goods can be put into a form most convenient to the purchaser and at a trifling expense to the finisher. Enormous yardage is used in the form of strip in various industries and purchasers who now buy piece goods and work it up by methods of their own may obtain their fabrics in more convenient form direct from the manufacturer and would favor such concerns as offered this service and would also pay liberally for this service.

Cotton mills and the converters of cotton goods very seldom bother with looking into the possibilities of reaching out for new business, and the average state of mind is to take what business comes along in the regular beaten track and not go into side lines looking for new outlets for goods.

In the paper industries the mills have been quick to see the advantage in delivering goods to the customer put up in precisely the form which the customer requires where this could be done conveniently and practically. The result has been that the mills which were among the first to appreciate the advantage of this policy began by catering to needs which at first seemed trivial and inconsiderable, but which have rapidly grown until such trade has become a large factor in the mills' output.

A case in point is surgeons' bandages, and other materials suitable for surgical dressings such as absorbent cotton, etc. The volume of business in this line in normal times



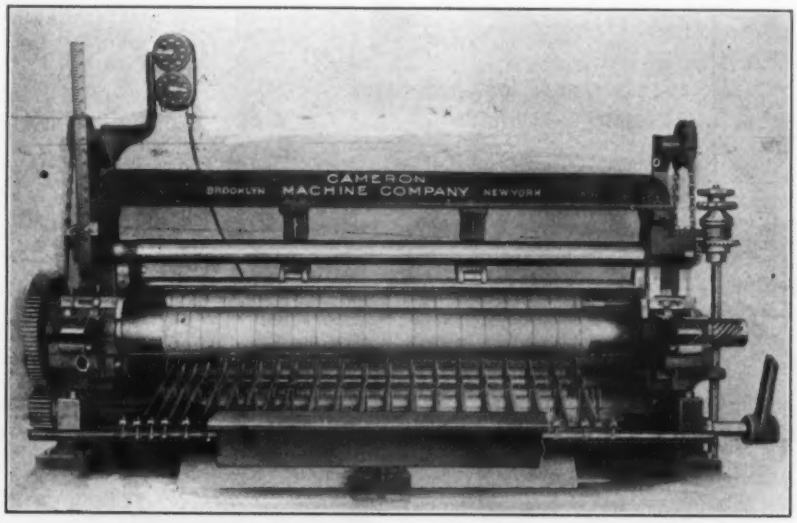
SPECIMENS OF SURGEONS' BANDAGES PRODUCED BY THE CAMERON PATENTED PROCESS

is quite considerable, but the present demand for surgical supplies is far beyond the normal demand owing to the enormous requirements of the nations at war, and the result is that the purchasers of these supplies have exhausted the resources of the ordinary channels through which they normally obtained gauze and muslin bandages in finished form, and are obliged to appeal direct to the mills and converters who are in a position to supply material in piece form with a view to working up this material themselves by improvised methods.

If the mills or converters were in a posi-

tion to furnish prospective customers not only with piece goods but also in the form of finished bandages, it is probable that the average customer woud be glad to pay liberally for this service, and would give preference to concerns that could give him this service. The Cameron Machine Co. has perfected a system of cutting cloth in strips which would appear to make it possible for textile manufacturers to deliver cloth to customers in precisely the width the customer will ultimately use it at a rate of output and cost which makes this extra process of minor importance.

ages it has been the custom to rewind a web of material into rolls of approximately ten yards of cloth full width to each roll, into compact form in a rolling up or rewinding machine. The spindle on which the goods is rolled up is then withdrawn, and a wrapper of paper applied to the roll with a view to keeping the goods clean in subsequent operations. This roll of cloth, which may be anywhere from 36 inches or upwards from end to end according to the width of the cloth, is then cut into transverse sections, each section being of a length corresponding to the desired width of the individual band-



UPPER STRUCTURE OF CAMERON MACHINE, SHOWING SLITTING, REWINDING AND MEASURING APPARATUS

As a single operator using the Cameron machine converts upwards of 10,000 yards of gauze or muslin per day into the form of finished bandages in suitable rolls,, it would seem as if the mill or converter so equipped has a strong argument for a customer who faces the necessity of working up the goods himself by improvised and expensive methods.

The goods pass from piece or mill roll form direct into finished bandages without any contact with the hands of the operator whatever, so that the features of cleanliness and hygiene so important to this line of manufacture are obtained.

In the manufacture of surgeons' bandage. The ends of these small individual bandage rolls are combed and frayed until practically free of the loose threads from the cutting process, and then smoothed off by contact with a sanded drum or buff wheel. It is necessary to remove anywhere from two to six or more picks in order that the edge of the bandage is free from ravelings. After this is done the original wrapper of paper is removed, and the bandage is ready for a final wrapper or label. The label is used where the goods are sold to the public through drug stores, the bulk of the goods being sold without labels on a basis of so much per pound.

The object of the Cameron process is to

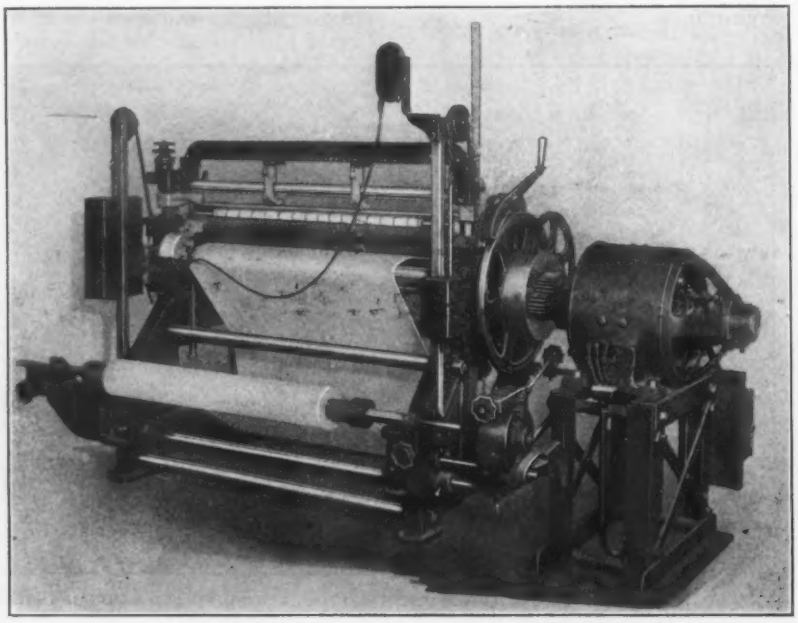
reduce to a single operation the many processes formerly used in producing surgeons' bandages, and at the same time to turn out a better and more sanitary product, and to prevent the waste of material incident to the old process.

The following are the features the ideal machine should possess for producing not only surgeons' bandages, but for any textile material which is used in strip form; in Mr. Cameron's experience:

The mechanism should be simple and durable, and easy to operate: It should be adjustable quickly and accurately for any change of widths required; it should be possible to guide the material accurately so that there be a minimum of waste if any on the selvage edges; the machine should be equipped to measure the yardage accurately as a check on waste or loss; the same machine should be able to operate on any and every kind of fabric. and produce any width of strip required in any size of coil; the machine should produce firm rolls, even as to edges, and of uniform tension without actually stretching the goods; the machine should be fool proof both ways so that the operator cannot hurt it, or be hurt by it.

"The machine which we have perfected," says Mr. Cameron, "was not the result of a sudden flash of inventive genius, but was the outcome of steady plodding in a line of business which has dealt with practically all problems in which a cutting operation was used, covering the needs of a wide range of industries.

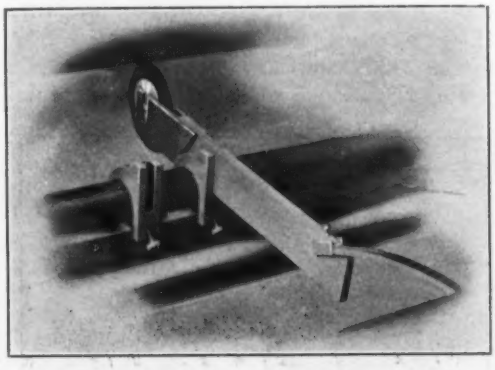
The basic features of the machine are the same as those of the other Cameron machines which have for years been supplied to manufacturers producing large quantities of the textile goods, paper goods, rubber, etc., in strip form for use in various lines, such as electrical insulation, automobile tire manufacture, typewriter ribbon and other lines calling for large quantities of material in strip form. Certain patented features have been added to this basic machine to meet ideal requirements of a process for the manufacture of surgeons' bandages, and it is worth noting that the same machine now used will also meet every other requirement that might arise aside from the bandage



CAMERON SLITTING AND REWINDING MACHINE—REAR VIEW

proposition, as the same machine will handle any kind of textile or other material, producing any width of strip wound into coils of any size even up to thirty inches diameter. It is in fact a machine of wide application, and with further equipment it can also be used in the rolling up of absorbent cotton and cotton batting into rolls of any desired size and weight.

Several years ago the Cameron Co.



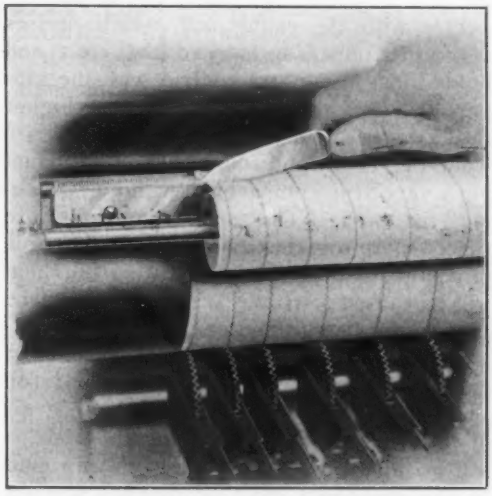
THE BANDAGE SLITTER WHEEL MOUNTED, SHOWING METHOD OF HOLDING OR SPACING SAME

worked out a method of doing the slitting which was free of the defects of all the other methods previously employed by us, and their experimenting had covered a very wide range indeed. It consisted in the use of a "cleaving" or 'scoring wheel," which actually presses through the material rather than cuts through it. This scoring wheel is a circular disc having a V-shaped edge sightly blunt and mounted on a ball bearing center, and pressed with a spring pressure against a steel cylinder of intense hardness having a highly polished smooth surface. This method has given results which left nothing to be desired in point of speed, accuracy and clean work, together with practically no bother of upkeep.

It was only a step further to make this style of slitter wheel with a zigzag edge so that the strip produced would have a scalloped edge, and this one step led to the Cameron process of producing surgeons' bandages, which has been covered by patents here and in Europe. Strips so cut would not fray at the edges and needed no further attention after the cutting had been done, which fact eliminated all of the succeeding processes necessary in producing surgeons' bandages, with the result that goods could be delivered to the machine and at one single process be converted from piece form into finished surgeons' bandages.

Aside from the economy of labor, the product thus produced has the added advantage that all of the material which is frayed out or combed away at the edges of the bandages in the old process still remains in place. The appearance is neater, and all of the goods is used effectively, and it is absolutely sanitary as no handling is required.

The Cameron principle of slitting where



METHOD OF SEVERING ENDS OF FINISHED ROLLS OF BANDAGES ON REMOVING FROM MACHINE

either a plain slitter wheel or one with a zigzag edge is used, has no limit as to speed. The goods are severed while passing between the slitter wheels, and the hard steel cylinder against which the slitter revolves, and the factor of speed has nothing to do with the character of the work. The slitters themselves are made of high speed steel, and the edge of the slitter requires very little attention. The edge is not maintained sharp and keen, but rather resembles that of a cold chisel, which is slightly blunt. The operator takes entire charge of the machine, and also keeps the slitter wheels in good working order. Possibly an hour or so per week covers all maintenance work.

The cutter roll or cylinder against which the slitters act is preferably made up of several tubular steel sections mounted on a core shaft, for by this means the highest degree of hardness and finish can be obtained which modern steel is capable of. The ends of the sections are accurately ground so that the joints between them need not be considered in placing the cutters for a change of width. The surface of the cutter roll is not in any way affected by the slitter wheels.

The rewinding apparatus which rolls up the goods following the slitting is of a type known as the "drum" or "surface rewind." The apparatus consists of a pair of supporting rolls of which the cutter roll is one, together with the riding roll, which presses upon the upper surface of the coils and holds them in uniform contact with the supporting rolls, and by revolving at a higher rate of speed insures that the rolls are wound up firmly and snugly, thereby producing a very firm, compact coil without stretching the web. The supporting rolls are spaced close together and rotate in the same direction, so that the coils resting on them will be caused to rotate at a uniform surface speed with the cutting.

From the foregoing it will be evident that as the fabric passes between the cutter roll and slitter wheels it will be severed into strips of the desired widths, and that these strips will go forward side by side to be rewound on the rewinding shaft or mandril without any possibility of one strip overlapping the edge of another. When the operation is compete the rewinding shaft or mandril is withdrawn, and the separate bandages, or coils of any other material, are in finished form and ready for delivery.

The Cameron Machine Co. puts out machines subject to trial by the prospective customer, or interested parties may see them in operation at the show room of their factory, 57-61 Poplar Street, Brooklyn, New York, where the bandage process can be fully illustrated, and the facts regarding other lines that might interest the textile manufacturer demonstrated.

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In 1816 M. I. Brunel invented the circular knitting machine.

MACHINES FOR PREPARING ABSORBENT COTTON

Last month we published an article on the chemical and mechanical processes employed in the preparation of absorbent cotton, for which the European war has created an unprecedented demand. A line of machinery required for opening, picking, carding, winding and otherwise preparing absorbent cotton is built by the Richard Hartmann Co., Chemnitz, Germany, for whom L. H. A. Schwartz & Co., 40 Central St., Boston, are the American agents.

The Hartmann cotton and waste opener,

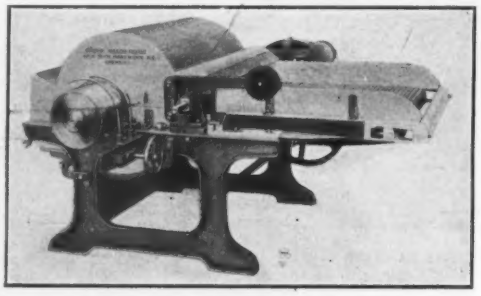


FIG. 1. A WET COTTON PICKER

which is used for this purpose, is an improved type of the Crighton opener, the principal aim being to treat thoroughly, but gently, all grades of stock and thus save the staple as much as possible. The beater scutcher is used for the preliminary cleaning of raw cotton for the manufacture of wadding for surgical, tailoring and other purposes. The material is fed by a fairly long lattice table and brought under pressure by a fluted table roller, for better equalization into the feed rollers and feeder trough by means of a spiked roller. The beater is provided with a strong cast steel shaft fitted with five discs and three beater rails. The stock is manipulated thoroughly and carried over a grid to two sifting drums which discharge it over a lattice in loose form.

The drying of raw cotton is a slow process owing to the matted condition of the wet stock. This difficulty is overcome by running the cotton through the wet cotton picker, shown at Fig. 1. No iron is used for the parts of the machine that come in con-

tact with the wet cotton and in this way rust is avoided. The stock comes from this machine in a light, fluffy condition in which form it is easily dried.

Fig. 2 shows the batting card used for carding and converting absorbent cotton into

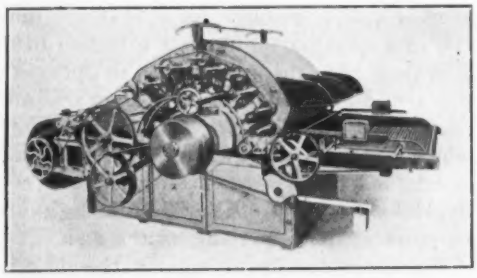


FIG. 2. A BATTING CARD

rolls of batting. This machine cards the stock thoroughly and is capable of turning out a very large production. The cotton is spread by hand or by a self feed on an apron which delivers it to the feed rolls from which it passes to the cylinder. It is delivered by the doffer and comb to the winding machine where the batting is wound on rolls. The

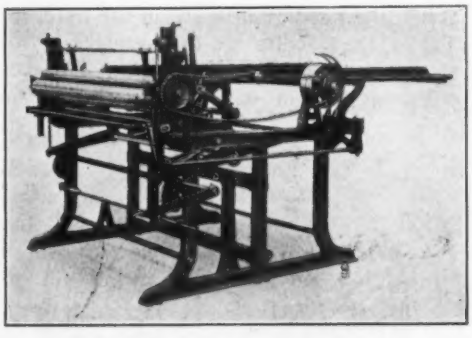


FIG. 3. MACHINE FOR WINDING THE SURGICAL WADDING INTO ROLLS

cylinder, workers and doffer are ordinarily covered with a preparation which is as hard as a bone and very durable, but they are also made of iron when desired.

The licker-in and cylinder are provided with grids or trays as desired, while the entire card is covered with a hood of polished wood which is made in two parts and can easily be removed. This hood is also made of steel. Each roller is provided with a metal disc which fits close to the edge of the hood and prevents the escape of flyings. Special attention has been given to the appliances for oiling the various bearings throughout the card.

The machine shown at Fig. 3 winds the surgical wadding into rolls or laps up to 6 inches in diameter, with or without paper insertion between the layers. It is a strong frame which ensures smooth working even when the winder is driven by a belt. The sheets are spread on a horizontal traveling lattice and after passing through two feed rollers are wound between three winding rollers at a pressure which can be adjusted according to requirements. Special guide rollers are provided for fitting paper insertions and paper wrappings. There is an attachment for cutting off and gumming down the end of the paper. This machine is driven either by hand or belt.

Another machine is provided for cutting the wadding rolls as they come from the winding machine. The cutter and the knife are fitted in a sheet steel trough which receives the ends to be cut to any length desired. The machine works rapidly and with very little wear on the knife, requiring but slight attention from the operator. Further information regarding the Hartmann machines can be obtained from the American agents.

A HAND KNITTING MACHINE

The illustrations show an improved hand knitting machine invented in Sweden and recently patented in the United States. It is described by the inventor as follows:

The object of the invention is to provide at a moderate cost a knitting machine especially adapted for knitting hose. The needles are placed with their hooks outward in radial directions in a horizontal circular bed along the periphery of which the yarn-guide is movable in one or both directions.

Fig. 1 is a vertical section of the machine; Fig. 2 is a top view; Fig. 3 is a bottom plan. The needle bed consists of a lower stationary dial provided at its upper side, near its circumference, with grooves for the needles,

Fig. 3. Placed on the disk is an upper circular disk adapted to turn in either direction about a pivot pin, Fig. 1, projecting from the disk. The disk carries the yarn-guide with

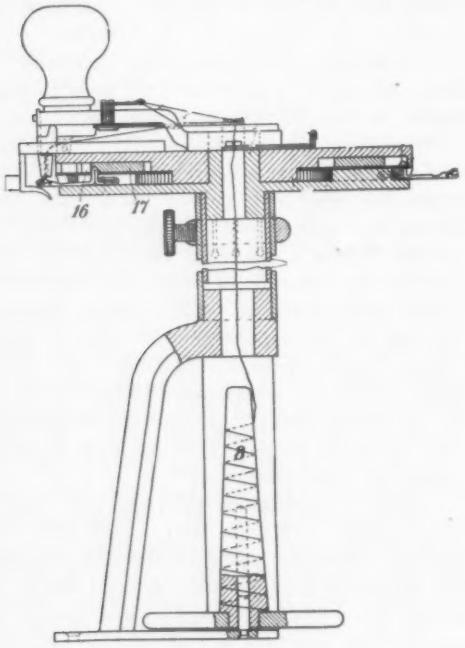


FIG. 1

the yarn-engaging spring devices and the operating members or cams for the needles. The lower disk is carried by a standard

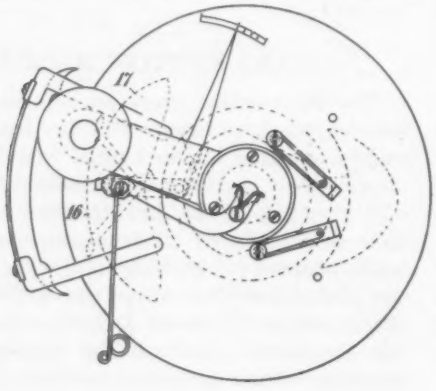


FIG 2

formed by two tubes, one placed within the other so that the standard may be extended or reduced in length according to the length of the work. The inner tube may be clamped in the outer one by means of a set screw.

The yarn passes from a reel placed in the foot of the standard, Fig. 1, through the hollow standard and the hollow pivot pin, thence through a spring hook attached to or formed by an arm attached to the operating arm or crank, through an eye at the outer end of a spring arm, likewise attached to the operating arm, thence through an opening in the arm and finally through the yarn-guide placed at the outer end of the arm through which it passes downward. The crank arm is adapted to turn a certain distance relatively to the disk, this distance being limited by stops at the upper side of the disk.

Placed at the lower side of the disk are the operating members for the needles. These parts consist of two fixed operating cams projecting from the lower side of the disk and a triangular operating cam movable in a radial direction between the fixed cams and having its inner straight edges parallel to the adjacent edges of the fixed cams so that the cams will form between them an angular groove of a variable width. The butts of the needles project above the needle bed formed by the disk, as shown in Fig. 1. When the needle butts are in the path, a—b, Fig. 3, the needles are in operative or working positions, the outer edges of the cams lying just in line with the path. The outer

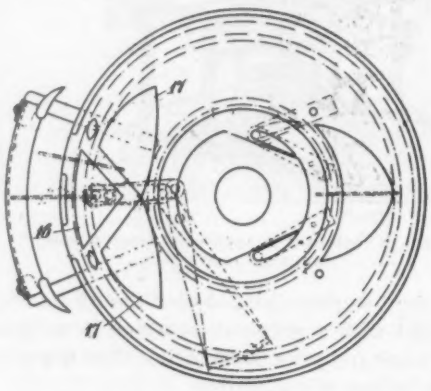


FIG 3

parts of the triangular cam cross the path so that one or the other side of the said cam strikes the needle butts and moves the needle

inward in the angular groove between the cams. The size of the loops formed depends on the position of cam, 16, relative to the cams, 17, the loops being longer as the cam, 16, is moved toward the cams, 17.

As long as the needle heads are to be retained in the groove, the guiding tongue takes up the position shown by full lines. If, on the contrary, the guiding tongue is swung outward into the position shown by a—b, the needle butts are caught and moved outward through the transverse groove into the working groove.

A ROVING CLAMP FOR SPINNING MACHINES

The device shown in the illustration, which has recently been patented, is designed to effect a second breakage of roving on the receiving end of the drawing rolls when the thread has become broken or slack in front. The roving usually passes from bobbins carried by a creel through guides carried by a reciprocating traverse bar to the drawing rolls and then to guides formed on the ends of wires which are so connected with devices for breaking the thread at the rear side of the drawing rolls that, while the machine is in operation, the clamps are inoperative. This arrangement is such that when a thread breaks on the delivery side of the rolls, the drop wire will drop and cause the clamp to break the roving at the receiving side of the rolls and stop the feed of roving. The threads after passing from the drop wires usually pass through guides arranged over spindles on which the thread is wound.

In the improved device the part of the drop wire through which the thread from the rolls passes is made adjustable in order that it may be properly related to the thread. The thread-engaging end of the drop wire is so constructed that the thread may be easily engaged therewith when taut, but cannot be easily disengaged when the thread is loose. Means are provided by which the roving clamps may be held up or out of engagement with the roving when the machine is being doffed.

Fig. 1 is a vertical section of a portion of a spinning machine with the improvements applied, the guides being in the position which they occupy when the roving is being drawn through the drawing rolls and the thread is being properly passed to the spindles. Fig. 2 is a perspective view illustrating the construction of the clamp proper and the devices for supporting and operating it.

The drawings show the improvements applied to drawing rolls of usual construction. These rolls are supported on a roll beam by standards in the usual way. The traverse bar which is operated in the usual manner is arranged in rear of the drawing rolls, and on

FIG. 2

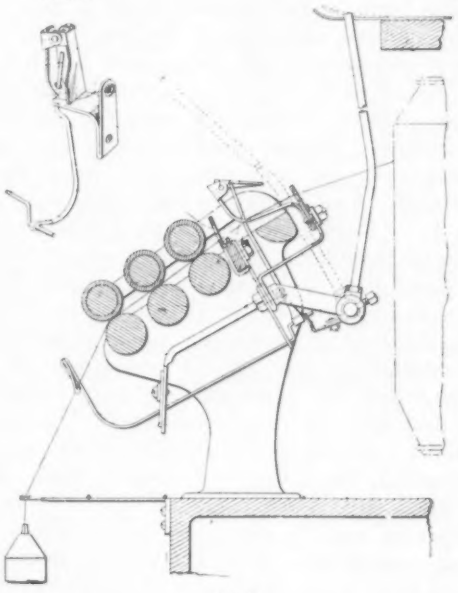


FIG. 1

this bar in rear of each of the rolls is secured a frame, provided at its upper end with a guide, while at its lower end it is bent or doubled and carried up and then back, where it is again bent up. In order to securely fasten the frame to the traverse bar they are bolted together, but as the bolt may loosen, an additional attaching device is provided. It consists of a bent wire having a top portion which extends above the traverse bar and over the upper portion of the frame. This upper portion of the wire clip is formed with vertical portions which extend down in front of the traverse bar and connect with the parts which project under the traverse bar and are bent slightly upward on the front side of said bar.

LIGHT AS A FACTOR OF EFFICIENCY

BY W. A. D. EVANS

PART II

After considering the value of good lighting and the necessary qualifications, the next point to be considered is the system and unit to be used.

For mill lighting, there are three general systems available, localized lighting, general lighting and a combination of the two. Formerly, all mills were lighted with the localized system, that is, 8 or 16 c.p. incandescent lamps were placed over the front of each loom, and a number placed in front of the spinners and a few in the rear. The operators received light on one spot which has a radius of about one foot, everywhere except directly beneath the lamp the machine was dark. In most cases the lamps were not protected by reflectors, nor were they frosted. The operators had continually in front of them a glowing filament with an intrinsic brilliancy of about 1000 c.p. per square inch and unconsciously each time the head was raised so as to bring the lamp in the field of vision, the pupil of the eye contracted to shut out the excess light from the retina, and when glancing away towards a dark spot, the reverse occurred. This continual contracting and opening of the pupil retarded the vision and slowed down the work. Moreover unless an operative was working directly under the lamp, there was not enough light to see the threads properly and poor work resulted. The old localized system was not only bad for the eye, on account of the glare, but was bad for the production as no operator could work properly under these conditions, and night production was invariably less than day production.

This has been remedied to a certain extent by the introduction of reflectors and shades which not only keep the direct light out of the eyes, but also widen the spot illuminated. Even with the reflectors, however, results are not as good as they should be as there is always a slight portion of the light source visible and unless a large number of lamps are installed, the intensity of illumination will vary materially over different portions of the machines.

The second system is general lighting, and this is being adopted more and more for efficient mill-lighting. In designing a general lighting system, it is necessary to adopt for certain units of floor space a definite intensity of illumination and then install sufficient fixtures or units to maintain this general average intensity.

By designing a proper general lighting system, the glare can be reduced to a minimum, as lights can almost invariably be placed out of the field of vision, and as the illumination is practically uniform, the eye is not in a constant state of change, but the pupil adapts itself for one degree of intensity and no lessening of speed occurs when an operator changes from one part of a machine to another. The main criticism of the general system is that it may be more expensive to install than the individual system, but this is more than offset by the advantages derived as mentioned above, and also, that the room lighted in this manner is much brighter and more cheerful, which is conductive to the willingness of the operator, and also that the danger from accidents is greatly diminished.

In some cases, where a general system is used, not enough light is provided on machines where close work is required and individual lamps are installed to insure sufficient intensity for close work. This system is open to the objection, though not in as great degree as with the straight individual system, that there is present too much glare and that the illumination varies materially over different portions of the machines. However, it gives the room more of a cheerful appearance, and tends to prevent accidents. It is also probably less expensive than a complete general illumination method.

It should be borne in mind, however, that a good general system of illumination which is designed to give adequate illumination, and good diffusion with the absence of glare, no matter how expensive, will be more than made by the increase in production over a cheap individual system.

The writer knows of one specific case in a large mill which was lighted entirely by the individual system and which was operated up to what was thought to be maximum effi-

ciency, but invariably the production under artificial light fell considerably below the daylight production, not only in quantity but in quality. By the adoption of adequate and properly designed general lighting system, eliminating all individual lighting, the lighting conditions at night were equivalent to daylight, that is, the intensity was uniform, there was no glare and the diffusion was excellent.

Operators working during daylight were not confronted at night by a lighting system to which they had to adjust and change all their movements, but by one which replaced daylight entirely, and no slowing down was noticed in the production curve. To-day this plant turns out goods under artificial light which in quality and quantity equal their daylight production. They have raised their production in different departments, during the artificial lighting hours from 8 to 20 per cent. Not only are the owners more than satisfied with the results obtained, but the employees, who are piece workers, have also increased their earnings and are extremely strong advocates of this system of lighting. The average manufacturer can appreciate how much it would mean to him to increase his production even 5 per cent., and how small would be the proportionate cost even with the most uneconomical system of lighting.

There is no doubt that a general lighting system meets mill requirements better than an individual system, and the next point to consider is the type of unit best suited for this system. At the present time, there are practically only two different types of units which are suitable for mill lighting—Tungsten Lamps or Cooper Hewitt Lamps. While enclosed carbon arc lamps could probably be used for a general lighting system, they are so uneconomical in comparison with the requirements of steady lighting, that is, they flicker, that they do not enter into the question of modern mill lighting, and therefore, this paper will deal only with the lighting by Tungsten lamps or by Cooper Hewitt lamps.

These two units differ radically from each other in their fundamental physical characteristics and in their construction, and a brief description of the salient features of each will be given.

The Tungsten lamp, as is well known, is an evolution of the old carbon filament lamp, in which the carbon filament is replaced by one made of metal tungsten. This metal by various processes is drawn down into the form of a wire, and is mounted on a stem which is sealed into a glass container of the proper size and the air is then exhausted by mechanical and chemical means, and the lamp then sealed off. When the proper voltage is applied to the lamp current passes through the filament, and it becomes heated to incandescence giving off a yellowish white light. These lamps are made in all sizes ranging from 10 watts or about 7 c.p. up to 500 watts or 500 c.p. and are also manufactured for 100-130 volt circuits or 200-250 volt circuits. Higher wattage lamps require a heavier filament and higher voltage lamps require a longer filament, or else one of a smaller diameter than a corresponding lamp of the same wattage for a lower voltage. The 220 volt lamp therefore generally has a longer filament of smaller diameter than the 110 volt lamp of the same wattage and for this reason is apt to be more fragile, and moreover does not have as good an efficiency.

The lamp when burning gives a steady light and there is no flickering present,, except when run on alternating current circuits of 25 cycles or lower.. The intrinsic brightness of the filament is extremely high, about 1,000 c.p. per square inch and unless lamps are kept out of the field of vision glare results. Even when lamps are placed high, if the rays strike bright metal spots, the resultant reflection is very noticeable and annoying, and lamps in most cases should be frosted which will reduce this effect materially.

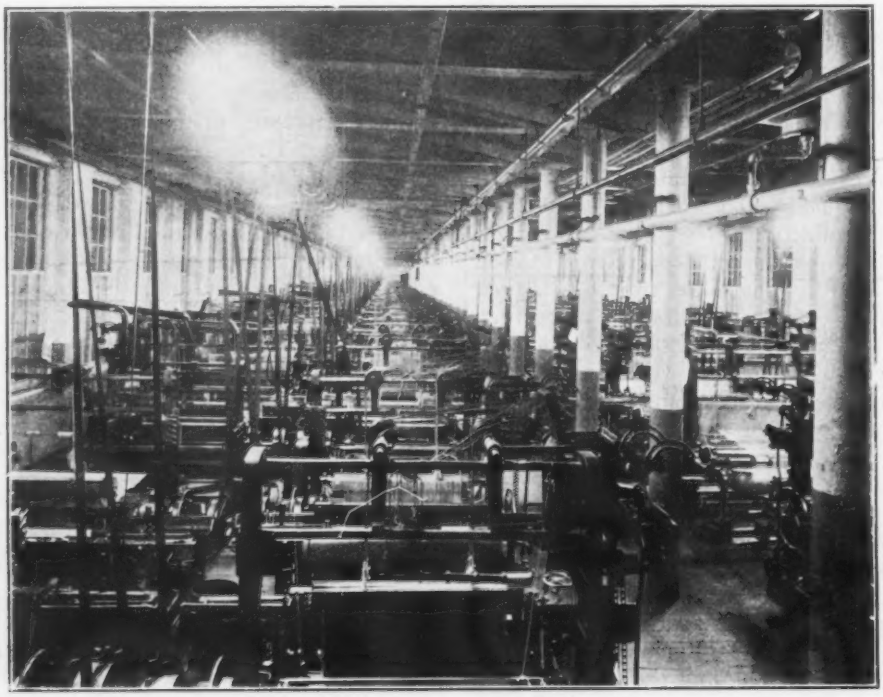
In all cases, lamps should be provided with suitable reflectors which will not only tend to keep down the glare, but will also direct the light in the proper direction to provide sufficient intensity on the working plane and to give good distribution.

The proper selection of a reflector is just as important as the proper choice of a unit, and a great many mills are equipped with

lighting systems which do not give the desired results due to improper selection or design of the reflectors which do not direct the light properly. To sum up, it may be said that if tungsten lamps are frosted and provided with proper reflectors, they meet the conditions of a good illuminant as regards lack of glare and diffusion.

On the question of the color the tungsten lamp gives to a well lighted room a warm tone. This is due to the preponderance of red and yellow rays in the spectrum, and to the small amount of blue and violet rays present. All lighting from the earliest candle flame up through the oil lamps, the gas flame, and the carbon lamp have tendered toward the yellow or red, and the tungsten lamp falls into this category and seems an illuminant of a natural color. However, it is far from daylight color and its small amount of short wave lengths prevent it from being used as a perfect substitute for daylight in the matching of colors. Practically all blues appear black under it and it is impossible to differentiate these different shades with any degree of accuracy.

As to the economical aspect of tungsten lighting, it is possible with well arranged reflectors and proper choice of units to light a mill with an average of about 100-125 watts per employee. Packing and shipping departments require a great deal less than this, while inspection will require considerably more.

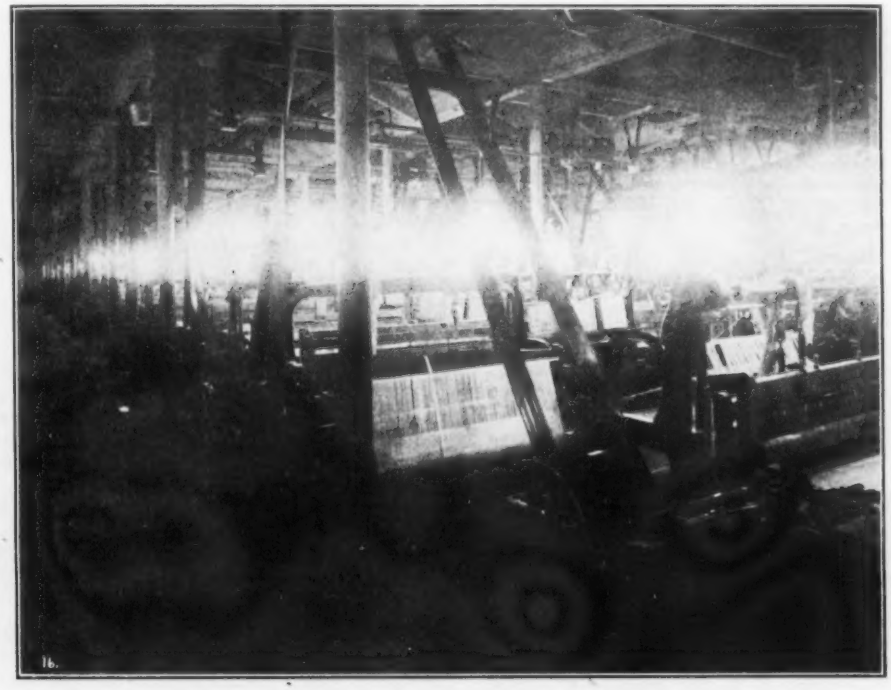


THE GENERAL SYSTEM OF LIGHTING

The Cooper Hewitt lamp differs radically from all other commercial illuminants, inasmuch as it employs for the conducting medium a gas in place of a solid. The lamps are made of long glass tubes, either 20 or 50 inches in length, in which the mercury is placed, and after the tube is exhausted it is sealed off and the current is introduced into the tube by means of platinum wire sealed into the glass at each end. By passing the current through the mercury vapor in the tube the former emits light by becoming

luminescent. This light is the result of a few rays only, which gives to the emitted light a bluish green color and does not have a continuous spectrum as in the tungsten lamp.

The light from the Cooper Hewitt lamp coming from a long tube and being distributed equally throughout is of extremely low brilliancy, about 15 c.p. per square inch, and light being emitted from a long tube distributed equally over larger areas, and moreover as has often been said "it shines around corners." The tube being long, the light will shine by obstructions which would be apt to interfere with that from a small source. Moreover, this feature prevents to a great extent deep shadows being formed, and these lamps can be so laid out in a mill



THE LOCALIZED SYSTEM OF LIGHTING

is therefore practically free from glare itself, prevents bright images on shiny metals, and thus does away with the glare that usually results from these substances. Even if a tube of this character which gives off 700 candle power is looked at closely, the pupil of the eye is able to take care of all the light received and does not tend to contract as with light sources of high intrinsic brilliancy. These lamps are invariably equipped with reflectors to direct the light in the proper direction, and there is no necessity of frosting them as with the tungsten lamps.

The feature of diffusion with a Cooper Hewitt lamp is an inherent quality, as the as to give a room at night the appearance of being lighted by perfectly diffused daylight, that is, no glare, absence of sharp shadows and good diffusion.

The most striking feature of the Cooper Hewitt lamp is due to the fact that the spectrum is a line spectrum and not a continuous one. The light in the lamp is concentrated in six lines, two in the violet, one in the blue, two in the green and one in the orange. There is no red present, and it is due to this that all objects illuminated by it which are of a reddish tone, darken considerably and in many cases become black.

(Continued on page 175)

Personals

James Adamson, superintendent of the Griffon Co., Frankford, Philadelphia, Pa., has resigned his position with that company. He has accepted a position as representative for A. J. Cameron & Company, worsted yarn spinners and top makers, of Philadelphia. He will be their Philadelphia representative.

L. M. Carpenter will succeed A. R. Young as superintendent of the Ashland Cotton Co., Jewett City, Conn. Mr. Young has sent in his resignation to take effect in a short time.

Frank H. Appelt has been appointed superintendent of the Warrenton Woolen Co., Torrington, Conn.

R. G. Henderson has accepted the position of superintendent of the Watertown Woolen Products Co., Watertown, N. Y. Mr. Henderson comes from Madison, Me.

W. O. Buzzell, for several years overseer of weaving at the Bristol Manufacturing Co., New Bedford, Mass., has resigned. He will be succeeded by John Crowther.

David Shephard, who for the past few years has been overseer of dyeing at the Broad Brook Co., Broad Brook, Conn., has severed his connection with that company.

Frank H. Elgar has accepted the position of overseer of finishing at the Patrick-Duluth Woolen Mill, Duluth, Minn. He comes from Hillsboro, N. H.

David Bingham has been promoted from second hand of the quilling room at the Arlington Mills, Lawrence, Mass., to the superintendency of the same department. He will succeed James Connelly.

Thomas Glasgow, formerly overseer of the cloth room at the Nottingham Mill, B. B. & R. Knight, Providence, R. I., has resigned to accept a similar position at the Postex Cotton Mills, Post City, Texas.

George F. Brietz, superintendent of the Kinston Cotton Mill, Kinston, N. C., has resigned his position with that company.

W. T. Hurley, superintendent of the Francis Cotton Mills, Biscoe, N. C., has resigned his position with that company.

A. A. Short, overseer of carding at the Paola Mills, Statesville, N. C., has severed his connection with that company.

J. B. Reid, superintendent of weaving at the McAden Mills, McAdenville, N. C., has resigned his position with that company.

L. O. Bunton has accepted the position of overseer of weaving at the Ware Shoals Manufacturing Co., Ware Shoals, S. C. He was formerly designer and overseer of weaving at the Wylie Mills, Chester, S. C.

DEATHS.

Gilbert M. Parks, founder of the G. M. Parks Co., of Fitchburg, Mass., died November 22 at the Corey Hill Hospital in Brookline, Mass., as the result of an operation from which he did not rally. Mr. Parks had been in poor health for several years and withdrew from active business in 1911 but had been about and always cheerful and interested in affairs until within a few weeks of his death at the age of seventy-three years. He saw the business grow from a small local concern to one of the large piping, engineering and contracting firms in this part of the country. Some years ago the manufacture of the "Turbo Humidifier" was added and this brought them in close touch with the textile industry. Mr. Parks was a man of quiet tastes and his interests centered in his business and his home. He is survived by his widow, two daughters and by three sons, Robert S., Frederick W., and Howard M., who are officers of the G. M. Parks Co. and have had the active direction of the business since their father's retirement.

Addison Lanphear, a prominent resident of Poquonock, Conn., and at one time superintendent of the Turnxis Cotton Mills, died November 16 at his home in that place at the age of 73 years. He was a veteran of the Civil War and served many years in public office in Windsor, Conn.

Everett L. Estes, superintendent of the Cutler Manufacturing Co., Warren, R. I., died at the Fall River Hospital, Fall River, Mass. Mr. Estes was a son of John H. Estes, owner of the Cutler Mill, and had recently been appointed superintendent of the mill.

Morris Friedlander, president of the Friedlander Knitting Co., Milwaukee, Wis., died at his home in that city on November 13 at the age of 63 years. He had been ill but a short time. He was well known in Milwaukee, having organized the Friedlander Knitting Co. more than thirty-five years ago. Mr. Friedlander is survived by one son, A. J. Friedlander, who is secretary and treasurer of the company, also two daughters. Interment was at Greenwood Cemetery.

John E. Hall died at his home in Lawrence, Mass., after a short illness. Mr. Hall was for a number of years employed at the Brightwood Manufacturing Co., North Andover, Mass., in charge of burling and mending. Later he was boss finisher at the Salt's Textile Co., Norwalk, Conn., and superintendent of dyeing and finishing at the Cobourg Dyeing Co., Cobourg, Ont., Canada. He was 49 years of age, married, and leaves a family.

Frank C. Carrigan of the firm of Carrigan & Hill, dealers in cotton and cotton waste, of Springfield, Mass., died suddenly at his home in that city on Thursday, November 19.

New Publications

Any work noticed under this heading can be obtained, postage or express charges free, by sending the price listed to Lord & Nagle Company, 144 Congress St., Boston, Mass. A catalogue of textile books in the English language will be sent free on application.

Double and Twisting, (Die Zwirnerei), by R. A.. Ganz, overseer of yarn twisting and textile engineer, revised and enlarged by A. Loewbeer, 153 pages, 6 by 9; A. Hartleben's Verlag, Leipzig, Germany. Price $2.50.

The German tendency to specialize in their technical literature is illustrated by this book, which is devoted entirely to doubling and twisting. The scope of the work is indicated by the following abstract of the table of contents: 1, Twisting in General; 2, Preparatory Processes; 3, The Process of Twisting, (a) Theory of Twisting, (b) Practice of Twisting; 4, After Processes, including singeing, finishing, mercerizing, reeling, packing and pressing; 5, A Plan of a Spinning, Twisting and Thread Mill; 6, Fancy Yarn; 7, Comparative Yarn Tables and Cotton Statistics. In the section on fancy yarn the author goes into the subject very thoroughly and gives descriptions of a number of German machines for manufacturing different types of novelty yarns. The volume is freely illustrated and is a valuable addition to textile literature.

Jute and Linen Weaving, by Thomas Woodhouse and Thomas Milne, 582 pages, 4 1/2 by 7, MacMillan & Co., St. Martin's St., London, England. Price $5.

This is a new edition of a work originally published in 1904 and which has become favorably known in the jute and linen trades. The new matter includes descriptions of machines that have come on the market since the first edition was published, including automatic weft supply mechanism, the chain linking machine, terry towel motions, warp stop motions, individual motor drives and jacquards. The contents of the book are arranged under the following heads: Counts of Yarn; Reeling, Bundling and Setting; Warp Winding; Weft Winding; Warping, Beaming and Dressing; Shedding; Tappet Driving and Setting; Dobby Shedding; Jacquards; Picking; Beating up; Let-off Motions; Taking-up Motions; Box Motions; Turkish or Terry Towel Motions; Centre and Side Selvages. The book is freely illustrated.

BUSINESS LITERATURE

Ball Bearings for Paper Making Machinery; The S. K. F. Ball Bearing Co., 50 Church St., New York.

A 32-page booklet describing and illustrating the application of SKF ball bearings to paper making machinery. A decade ago the use of ball bearings on paper machinery was unknown. Today they are part of the standard equipment of a number of the larger paper machine manufacturers. This booklet shows mountings which are the result of painstaking research on the part of both user and maker of ball bearings. Manufacturers, realizing the advantages to be gained by using ball bearings, have gone to unusual pains to make their use successful.

Foreign Trademarks and the Export Trade, by Lawrence Langner, solicitor of patents, Singer Building, New York.

This is a 7-page pamphlet in which the question of foreign trademarks is discussed in connection with the export trade of Central and South America. Copies of the pamphlet can be obtained on application to the author.

Industrial Notes

MILL ENGINEERS

Messrs. H. M. Haven and Wm. W. Crosby, formerly of the firm of F. W. Dean, Inc., have opened offices at Room 400, Marshall Building, 40 Central St., where they will continue to design industrial plants, power plants, textile mills, refrigerating plants, etc.

LABELS

R. S. Clark & Son, label printers, Cohoes, N. Y., are now well established in their new printing offices and have every facility, with new presses and equipment, to make prompt deliveries. They make a specialty of labels for knit underwear, hosiery and shirt manufacture. We were shown a number of samples of their production and take great pleasure in recommending them to mills using their line of goods. Quality, prompt shipment and fair prices are the three attractive claims which they offer to prospective customers. They will be pleased to quote prices on any specification sent them.

SHORTAGE OF WOOL IN NORWAY

Consul Theodore Jaeckel, Stavanger, Oct. 27

The embargo placed upon the exportation of wool by England, which country prior to the war supplied almost all the wool consumed by the woolen mills in Norway, has placed the local mills in a most awkward position. Unless the situation can be remedied in the near future, either by lifting the embargo, at least so far as the exportation of wool to Norway is concerned, or by the success of the efforts to procure wool from South America which are now being made by the woolen mills, the latter will soon have to close down. In this district it is stated that none of the mills have a supply on hand sufficient to last more than two months.

A meeting of the textile manufacturers of the country, called to discuss the situation and to take concerted action in this extremity, is scheduled to

take place to-day (Oct. 27) at Christiania. It is believed that the proposal will undoubtedly be made to send a representative to Buenos Aires to purchase wool in large quantities for the mills here.

In the meantime the Norwegian Government is endeavoring to persuade the British Government to lift the embargo on the exportation of wool to Norway. The Norwegian Gvernment also has placed an embargo on the exportation of wool and woolen goods, and all wool brought into the country will therefore be consumed in Norway. The manufacturers have sent to the Norwegian Foreign Office their unfilled contracts for the purchase of wool in England, in order to facilitate an exchange of views between the two Governments concerning the lifting of the embargo as to exports to Norway.

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Chas. R. Thomson, who for eleven years was connected with the Renfrew Manufacturing Company of Adams, Mass., and for the last six years of that period was general superintendent of the entire plant, has become a member of the firm of H. C. Raynes, Inc.

Mr. Thomson was first employed by James A. Napier & Company of Glasgow, Scotland, who manufactured very fine lines of colored cotton dress goods. Upon arriving in America he was first employed in the designing room of the Lorraine Mfg. Company of Pawtucket, R. I., after which he was connected with the Parkhill Mfg. Company of Fitchburg, Mass., for several years, as well as other large companies.

Mr. Thomson will make his headquarters in Boston and will assume supervision of a large part of the textile business of the above firm.

H. C. Raynes, Inc., are consulting engineers and managers of various kinds of manufacturing enterprises and are highly regarded in the business world.

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WAGES OF THE KNIT GOODS INDUSTRY

U. S. Report of Bureau of Labor Statistics

In the hosiery and underwear industry average full-time weekly earnings in 1913 were 5.5 per cent. higher than in 1912; 9.8 per cent. higher than in 1911, and 10.4 per cent. higher than in 1910. The full-time weekly hours of labor in 1913 were 1.8 per cent. lower than in 1912; 3.5 per cent. lower than in 1911, and 3.7 per cent. lower than in 1910. The rates of wages per hour in 1913 were 7.5 per cent. higher than in 1912; 14.3 per cent. higher than in 1911, and 14.7 per cent. higher than in 1910.

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The soluble softening oils made by The Arabol Mfg. Co., 100 William St., New York City, give a smooth finish to the warps, an easy parting of the threads in the lease rods, a bright and clean appearance to the slasher cylinders. Especially good results are obtained with close woven goods, such as corduroys, velveteens, sateens, umbrella cloths, cambrics, etc.

A BELT AN EIGHTH OF A MILE LONG

One of the largest single rolls of stitched cotton duck belting that has come to our notice is that recently made by the Gandy Belting Co. of Baltimore for a large Iowa supply house.

This roll is 712 feet long, 36 inches wide and weighs 6,000 pounds. Unrolled to its full length it would extend more than three city blocks; four horses are required to haul it. The illustration gives some idea of what these figures mean.

While this belt was under construction, the Gandy Company was completing its 36th year in the manufacture of stitched cotton duck belting, of which Maurice Gandy was the inventor. They now operate, so far as we know, the largest factory in the world devoted exclusively to the manufacture of belting of this type.

It is made of a special weave of heavy weight cotton duck stitched with a heavy sewing cord on patented machines, making an imbedded stitch, which leaves the surface of the belt perfectly smooth. Stitching is done while the belt is under tension from end to end. By an original device all parting or splitting of ends is obviated and trouble from air puffs is done away with.

Special widths of belt are woven for each size, thereby ensuring a selvage and consequent even strain on both edges of every belt. Each belt is treated with special oil process to render it water, oil, steam, heat and dirt proof, keep it pliable and add to its life.

For the convenience of its customers the company keeps an immense stock of seasoned belts always on hand; and in almost every case regular orders can be filled the day received.

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North Carolina, Davidson.—A cotton storage house is being built by the Delburg Cotton Mills with a capacity of about 700 bales.

MEETING OF OVERSEERS AND MANAGERS

About five hundred overseers and managers of mills in Lawrence and vicinity attended a meeting in the State armory of that city on November 26. George E. Kunhardt presided and spoke in high terms of the work of the Y. M. C. A. among the foreign population of Lawrence. C. T. Holm of the association was the next speaker. He was followed by William M. Wood, president of the American Woolen Co., who said in part:

"Perhaps, gentlemen, the overseers of our mills do not realize how much they have to do with establishing the reputation of our mills throughout the trade. The men who manage the mills give them character. The product of the mills is in the hands of you overseers, and I may add that so far as I can judge, it is in pretty good hands. The test between a good reputation and an indifferent one in the world's market comes when business is bad. In easy times orders are not so difficult to get, but in hard times the mills with a good reputation generally have the preference, and that means more work for these mills, when other mills are idle. I think this has been exemplified in the mills of Lawrence, for while they have not been as busy as they might have been, they have had more work than many of their competitors who have been shut down in entire idleness. In proportion to its inhabitants, Lawrence is without doubt the most cosmopolitan city in the State, if not in the United States, and from my observation of humanity, I am inclined to think that 98 per cent. of people generally are really good. These people come from all countries on the face of the globe, and in their own particular countries they have many things that they can show us just as we have things, perhaps, that we can show them. They have art and music, architecture, beautiful cities, beautiful museums, and all that goes with a high civilization. So that each has occasion to feel proud of his own particular race."

Edwin F. Greene, treasurer of the Pacific Mills, was the next speaker. He referred to the fact that his grandfather was an overseer of carding and his grandmother a weaver. His father was also a mill man and his own heart was in with this industry as always. He stated that in spite of the adverse conditions now prevailing in business he believed there would be a marked improvement in business in the near future. Mr. Greene expressed great interest in the social and economic affairs of Lawrence and was glad to take part in the welfare work of the city. Albert H. Chamberlain, treasurer of the Arlington Mills, also addressed the meeting. Among those present were the following:

Walter E. Parker, Alfred Sagar, Franklin W. Hobbs, James I. Milliken, Walter M. Lamont, Moses L. Shuttleworth, C. J. Bodfish, Andrew J. Adie, Charles E. Collins, John Shackleton, G. H. Simonds, Samuel D. Stevens, J. P. Walworth, George L. Selden, George Fred Russell, H. A. S. Read, William J. Taft, Augustus P. Thompson, Parry C. Wiggin, A. B. Emmons, W. E. Rowell, George W. Tupper, Robert T. Todd, Irving Southworth, Bradford Lewis, Edward W. Hearne, J. E. Walworth, James Boothman, J. W. Booth, Richard S. Russell, Fred C. McDuffie, John E. Horne, H. B. Rockwell, L. H. Homer.

MOTOR TRUCKS AND THE WAR

"Did it ever occur to you," asked President George A. Kissel of the Kissel Motor Car Company, "that the motor truck is the only product of iron and steel whose mission in the European war is mainly one of mercy rather than of carnage?"

Mr. Kissel was watching the loading of a large export order of KisselKar trucks as he asked the question to which he himself immediately supplied the right answer.

"Yes, cannon, rifles, swords, bayonets, bullets—in fact everything that is metal save motor trucks, are exclusively agents of destruction and disaster.

"But trucks are used principally in the commissary, supply and hospital service. It is due to these trucks that immense armies can be properly provisioned, fed and clothed. It is due to them that the sick and wounded can be more quickly reached and cared for than was ever before possible in war. Countless lives have been saved in this conflict through the superior efficiency of motor trucks in the ambulance corps.

"And when it is all over motor trucks will be the most prominent factor in the work of restoration. A vast wasted territory must be cleared, new roads laid., new cities built. Motor trucks with ability for work and a ground-covering capacity three and four times that of animals will reduce the time and expense of this great work many fold."

The Dodge Idea has been taken over by the Dodge Idea Publishing Co. C. R. Trowbridge who has been editor for a number of years, will continue in that capacity and the magazine will follow the same editorial policy and cover the field of industrial engineering on an independent basis. The home office is Mishawaka, Ind.

ELECTRIC POWER

The Excelsior Needle Co., of Torrington, Conn., is building a new three story building to enlarge their facilities. In their power plant they are putting a 375 K. V. A. Terry turbo-alternator set.

REMOVAL

The Aberfoyle Mfg. Co., whose plant is at Chester, Pa., announces the removal of their Philadelphia office to the Morris Bldg., 1421 Chestnut St.

William H. Harris, formerly treasurer and agent of the Slater Mfg. Co., of Pawtucket, has opened offices in the New York Life Bldg., 346 Broadway, N. Y. City, for the purpose of doing a general textile brokerage business in all silk, all cotton and silk and cotton fabrics.

THE NATIONAL ASSOCIATION OF WOOLEN AND WORSTED OVERSEERS

The thirty-second annual meeting of the National Association of Woolen and Worsted Overseers, which was held at the American House, Boston, Saturday, Novembre 21, was considered one of the best meetings which has been held in a number of years, there being 250 and 275 members present. Three overseers of Rhode Island were elected to office: Edgar M. Taft, Bridgeton, president; James Wilson, Providence, first vice-president, and Joseph H. Driscoll, Manton, second vice-president.

The meeting was called to order shortly after 11 o'clock by the retiring president, Richard J. Hill. After the election of officers the new president took the chair and finished the affairs of the meeting. Mayor Curley of Boston arrived shortly after 1 o'clock. After being introduced by the president, he gave an interesting address. At 1.30 the business meeting adjourned and members and guests partook of an excellent menu in the banquet hall.

Several new applications were received and placed in the hands of the investigation committee and will be acted on at the next meeting. The reports of the secretary and treasurer for the past year were read and accepted.

It was reported that 35 new members had joined the beneficiary department since the last meeting. There have been 7 deaths during the year.

The following members were present: John Archer, Franklin, Mass.; Louis M. Allison, Worcester, Mass.; Emmett Ainley, Providence, R. I.; Charles H. Adams, Glastonbury, Conn.; Charles H. Attridge, Providence, R. I.; Charles Attridge, No. Providence, R. I.; William Ahern, Worcester, Mass.; Frank W. Austin, Bristol, R. I.; George H. Ashton, Rockville, Conn.

Fred L. Babcock,, Boston, Mass.; Charles N. Brown, Penacook, N. H.; J. G. Burnes, Cranston, R. I.; John F. Bagley, Lowell, Mass.; John F. Bolger, Philadelphia, Pa.; W. A. Booth, Lowell, Mass.; Albert J. Bressette, Providence, R. I.; Wm. McBride, No. Billerica, Mass.; Benjamin B. Bray,, Jr., Lafayette, R. I.; M. C. Brownell, Worcester, Mass.; D. C. Byars, Farnumsville, Mass.; Thomas Byron, Clinton, Mass.; Benjamin Booth, Philadelphia, Pa.; R. E. Bailey, Foxboro, Mass.; J. E. Bradley, Talcotville, Conn.; Harry R. Broughton, Plymouth, Mass.; John H. Bence, Jefferson, Mass.; Joseph A. Bolger, Germantown, Pa.; T. F. Brennan, Penacook,, N. H.; Ephriam Bedford, Thornton, R. I.; George Brown, Bridgeton, R. I.; J. B. Bennett, Providence, R. I.

John H. Crowley, Hyde Park, Mass.; J. H. Crowther, Franklin, Mass.; Frank Christian, Oakland, R. I.; James R. Cobb, Careyville, Mass.; J. B. Connell, Lebanon, N. H.; Louis Carmack, Providence, R. I.; Oland Comstock, Watervliet, N. Y.; Fred Carter, Pascoag, R. I.; R. E. Chase, Washington, R. I.; Hugh Cameron, East Lyme, Conn.; M. J. Coughlin, Lowell, Mass.; James A. Carer, Uxbridge, Mass.; James C. Carmark, Woonsocket, R. I.

NATIONAL ASSOCIATION OF WOOLEN AND WORSTED OVERSEERS

A. Dreghorn, Woonsocket, R. I.; Edward Doherty, Maynard, Mass.; William E. Davison, Putnam, Conn.; J. H. Driscoll, Manton, R. I.; Eleazer Davies, Plymouth, Mass.; Dennis Duffy, Lowell, Mass.; Edmund F. Darling, Franklin, Mass.; John F. Drummond, Woonsocket, R. I.; Lewis Dicks, Woonsocket, R. I.; P. F. Doyle, Pascoag, R. I.; Joseph T. Daly, Worcester, Mass.; E. Fred Deverall, Providence, R. I.; George W. Davis, Concord Junction, Mass.; John Dobbs, Lowell Mass.; A. Drayton, Rockville, Conn.; P. H. Degan, Lowell, Mass.

George F. Edson, Putnam, Conn.; Everett S.

Eddy, Worcester, Mass.; Benjamin Eyers, No. Vassalboro, Me.; W. H. Eyers, So. Windham, Me.; George F. Egan, Woonsocket, R. I.

J. H. Ford, Worcester, Mass.; James J. Faron, Worcester, Mass.; Arthur E. Fawthrogs, Lawrence, Mass.; Mathew J. Fagon, Concord Junction, Mass.; Joseph Feather, Lawrence, Mass.; Adolph Felgentrager, Lowell, Mass.: George Frazer, New Bedford, Mass.; T. H. Frazer, Glendale, R. I.; B. Featherson, No. Billerica, Mass.

R. E. Greene, Burrillville, R. I.; Frank H. Goettler, Maynard, Mass.; C. S. Garner, Yantic, Conn.; Asa Garth, Fitchburg, Mass.; G. W. Greenbank, Uxbridge, Mass.; John Guerin, Woonsocket, R. I.; Julian Guerin, Woonsocket, R. I.; J. F. Geb, Franklin, Mass.; Albert Gill, Providence, R. I.; James R. Garnett, E. Rochester, N. H.; Alphonse Gilson, Woonsocket, R. I.; John E. Graham, Lowell, Mass.; John Gormley, Pawtucket, R. I.

James Hirst, Peterboro, N. H.; Harry H. Hodgson, Harrisville, R. I.; W. H. Hassett, Holyoke, Mass.; F. E. Hamel, Franklin, N. H.; H. B. Hazen, Davisville, R. I.; Richard J. Hill, Woonsocket, R. I.; C. M. Hurst, Providence, R. I.; Robert J. Harrington, Dalton, Mass.; Ira B. Hubbard, Worcester, Mass.; James H. Hillens, Lawrence, Mass.; C. F. Hackmei, Providence, R. I.; Jonathan Hartley, Warren, Mass.; John A. Heaton, Webster, Mass.; John Henderson, Providence, R. I.; Clovis J. Henault, Woonsocket, R. I.; Charles J. Henault, No. Glastonbury, Conn.; George R. Howarth, Careyville, Mass.; P. J. Harney, Webster, Mass.; Daniel J. Holland, So. Groveland, Mass.; Benjamin Horsfall, Lowell, Mass.; Henry Higgs, Amsterdam, N. Y.; William Hillingworth, Franklin, Mass.

John Ingham, Maynard, Mass.

Jacob J. Jones, Mapleville, R. I.; A. E. Jones, Hillsboro, N. H.; C. B. Jennings, Amsterdam, N. Y.; T. J. Jennings, Centreville, R. I.

E. W. Keough, Middleboro, Mass.; F. S. Klebart, Webster, Mass.; Anthony Keenan, Lowell, Mass.; Edward F. King, East Dedham, Mass.; C. M. Elebart, Webster, Mass.; Charles I. Keegan, Pascoag, R. I.; Simon P. Kenny, No. Andover, Mass.; Emil A. Kisro, Webster, Mass.; Charles A. Kennedy, Pittsfield, Mass.; Fred W Kennedy, Lawrence, Mass.

Fred J. Liebold, Penacook, N. H.; Robert J. Lang, Farnumsville, Mass.; Moe Lachance, Dalton, Mass.; Joseph Lavallee, Woonsocket, R. I.; Frank S. Lawson, Washington, R. I.; John J. Lyons, Moosup, Conn.; J. E. Lancaster, Pawtucket, R. I.; Arthur H. Little, Providence, R. I.; James Arthur Laprark, Dalton, Mass.; Charles W. Lynch, Penacook, N. H.; John P. Leary, Northboro, Mass.; James Lees, Holyoke, Mass.; S. E. Lancaster, Somersworth, N. H.; Joseph R Loycer, So. Windham, Mass.; James H. Lawler, Lowell, Mass.; John Lawton, Lebanon, N. H.; J. C. Leith, Chelmsford, Mass.

G. A. Mabbett, Newport, Me.; J. F. Maguire, Munson, Mass.; F. L. McCarthy,, Fitchburg, Mass.; Walter Magson, Woonsocket, R. I.; Herbert Midgley, Worcester, Mass.; John D. Meskell, Boston, Mass.; George Moore, Somersworth, N. H.; John T. Moore, Centreville, R. I.; James McDowell, Providence, R. I.; John T. McGeough, Woonsocket, R. I.; John J. Mungan, Lowell, Mass.; Fred F. McEvoy, Fitchburg, Mass.; H. S. Mowry, Harrisville, R. I.; William F. Mulligan, Killingly, Conn.; Thomas Mullin, Franklin, N. H.; William R. McConachie, Uxbridge, Mass.; H. J. Metcalfe, Providence, R. I.; William McKinnon, Farnumsville, Mass.; J. T. McCormack, Hyde Park, Mass.; Edward F. McGlone, Uxbridge, Mass.; Peter MacKinnon, Tilton, N. H.; James J. Morgan, Maynard, Mass.; I. D. Martin, Danielson, Conn.; Henry H. Magall, Providence, R. I.

Fred W. Nash, Worcester, Mass.; Fred C. Neff, Rockville, Conn.; Charles North, Philadelphia, Pa.; Samuel J. Nield, Lonsdale, R. I.; R. H. Nichols, Mystic, Conn.

Archibald Ormiston, Bridgeton, Me.; George Ormiston, Oakland, Me.; John T. Ogden, Lowell Mass.; John R. Ormiston, Rochdale, Mass.; Benjamin Oldfield, Methuen, Mass.

Crawford A. Partelo, Cordaville, Mass.; I. Clark Partelo, Franklin, N. H.; Tom Parkin, Providence, R. I.; Walter Pickford, Clinton, Mass.; H. J. Perry, Somerville, Mass.; P. Purcell, Manton, R. I.; J. T. Patterson, Hillsboro, N. H.; Francis E. Patterson, Bridgeton, R. I.; Theodore N. Parent, No. Adams, Mass.; C. H. Philbrick, Worcester, Mass; F. W. Perkins, Woonsocket, R. I.

Michael F. Quinn, Pascoag, R. I.; Arthur S. Quirk, Nasonville, R. I..

R. B. Robinson, Lowell, Mass.; Thomas J. Ryan, Pascoag, R. I.; Thomas F. Rieley, Pascoag, R. I.; J. W. Rensehausen, Bristol, R. I.; Thomas Richmond, Putnam, Conn.; J. H. Rule, No. Billerica, Mass.; M. H. Roberts, Pittsfield, Mass.; George J. Raisch, Providence, R. I.; H. S. Ringland, Providence, R. I.; James J. Rae, Worcester, Mass.; Albert E. Riley, Pascoag, R. I.; A. G. Rodger, Saugus, Mass.; S. B. Ray, Worcester, Mass.

William Starling, No. Bellingham,, Mass.; Peter Stitt, Maynard, Mass.; Charles Stephenson, Woonsocket, R. I.; Harry J. Silvey, Bridgeton, R. I.; Samuel Stott, Methuen, Mass.; John J. Sheehan, Providence, R. I.; Henry Shaw, Leominster, Mass.; Brook Southan, Lowell, Mass.; Thomas Southan, Lowell, Mass.; Charles H Speak, Fairfield, Me.; James Speed, Boston, Mass.; E. A. Sutcliffe, Providence, R. I.; Charles Spurr, No. Stoughton, Mass.; A. B. Shepherd, Stafford Springs, Conn.; F. L. St. George, West Medway, Mass.; Harry Slater, No. Andover, Mass.

Edgar M. Taft, Bridgeton, R. I.; E. R. Toop, Maynard, Mass.; Thomas Thomas, Pittsfield, Mass. E. C. Tainter, Wamasit, Mass.; Edgar Tetley, Washington, R. I.; James H. Toop, Washington, R. I.; Richard Thomas, Thornton, R. I.; W. A. Tucker, Melrose Highlands, Mass.; William M. Taylor,, Holliston, Mass.

Benjamin W. Washburn, Franklin, Mass.; James Wilson, Providence, R. I.; John J. Wehinger, No. Adams, Mass.; Joe Wood, Providence, R. I.; Charles E. Williams, Worecster, Mass.; W .E. Wilson, Watertown, Mass.; A. J. Wicks, Lawrence, Mass.; K. J. Whalen, Providence, R. I.; J. W. Whitehead, Lowell, Mass.; C. A. Williamson, Foxcroft, Me.; Irving Ward, Pittsfield, Mass.; James Walsh, Moosup, Conn.; H. E. Wyer, Rochdale, Mass.; William D. Waldie, Lawrence, Mass.; William F. Weeks, Haverhill, Mass.; P. F. Whalen, Harrisville, R. I.

THE TWENTY-FIFTH ANNIVERSARY OF F. A. BOCHMANN & CO., INC.

Executives of the manufacturing and sales departments of F. A. Bochmann & Co., Incorporated, were guests of the president and general manager of the company, Charles F. Bochmann, at a banquet in November at the Hotel Majestic, Philadelphia, which marked the twenty-fifth anniversary of the firm which operates a big textile mill for the manufacture of woolen and worsted dress goods at Second and Cambria Sts.

CHARLES F. BOCHMANN

A painting of the founder, Francis A. Bochmann, was presented to his son and present head of the firm by the guests. Thomas F. Ternan, secretary, made the presentation speech. President Charles F. Bochmann, in turn, gave each of the guests a loving cup.

Francis A. Bochmann, the founder of F. A. Bochmann & Co., came to this country from Germany in 1862. In 1889, together with Charles H. Landenberger and Charles F. Bochmann, one small building was purchased and with a working force of fifty employees and the same number of looms, they started the manufacture of worsted and woolen dress goods. To-day the plant comprises a half dozen buildings and occupies the block from Somerset to Cambria and from Second to Phillip Sts. where they operate four hundred broad looms and employ upwards of six hundred hands. In May, 1906, Charles H. Landenberger withdrew from the partnership and Paul Bochmann, a nephew of Francis A. Bochmann, was made a junior partner of the firm. Business was carried on successfully under this management until the death of Francis A. Bochmann in May, 1911. The company was then incorporated with Charles F. Bochmann of Philadelphia as president and general manager; Paul C. Bochmann of New York, as treasurer, and Thomas F. Ternan of Philadelphia, secretary. In April of the present year the treasurer, Paul C. Bochmann, died, and he was succeeded as treasurer by Harry Lonsdale of Philadelphia, who is also superintendent of the mills.

THE EMDEN RAISED RUBBER PRICES

"The Cruiser Emden, which was recently sunk after a career in which she destroyed many merchant vessels, was the cause of some worry to the rubber trade of the United States, and there was general relief at the news of the Emden's destruction," says an official of The Goodyear Tire & Rubber Co. "This relief was direct, and had no relation to anyone's sympathies in the present war.

"The Emden probably cost the rubber industry in America $1,000,000, directly or otherwise, and had she been allowed to continue to roam the Indian Ocean indefinitely she would have cost American industry still more.

"Before the engagement with the Sydney, which ended the Emden's career, she sank nearly two dozen merchant ships. One of these carried 2,300 tons of crude rubber from the Far East, bound for London, and two others carried 800 tons of crude rubber each. The United States gets most of its crude rubber supply from London. The effect of the Emden's activities on shipping was noticeable. Insurance rates became almost prohibitive. Crude rubber prices advanced steadily until they were 12 cents a pound above normal. Since the sinking of the commerce destroyer rubber prices have been gradually returning, the markets and insurance have eased, and the theory is that conditions will become even more favorable than they are now."

REMARKABLE FAN EFFICIENCY

For some months past the Buffalo Forge Co. have been developing their Niagara Conoidal type of fan. It has been their object to put out a unit that would stand in a class by itself for durability and efficiency. They recently installed a No. 17 Niagara Conoidal fan at Cheney Brothers' silk mills in South Manchester, Conn. During the week of November 16th careful tests of this installation showed a delivery of 45,00 cubic feet of air per minute through the resistance of a humidifier, heating coils and ducts, with only 3 1/3 horse power, including the bearing and belting losses. The Buffalo Forge Co. think this comes pretty close to establishing a record.

K-A DROP WIRES

In the advertisement of Frank Mossberg Co., of Attleboro, Mass., which appeared in the Official American Textile Directory for 1914, a portion of their corporate name was omitted so that the identity of this company might possibly be confused with that of the Mossberg Wrench Co., Central Falls, R. I. The latter concern holds the exclusive rights under the United States patents to manufacture and sell the K-A drop wires used with the patented K-A electric warp stop.

LOUIS HIRSCH MOVES OFFICES

On December 1st Louis Hirsch, who has previously been located on Lafayette St., removed his offices and stockrooms to 220 Fifth Avenue, New York City (telephone—Madison Square 6446). Mr. Hirsch states that shipments of machinery from his European manufacturers are now coming along regularly. He is advised that the factories in Europe are working with almost full force, and expects that there will be no further delay in filling orders.

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BLANKETS FOR GREECE

A firm in Athens, Greece, is desirous of getting into communication with American manufacturers of blankets for army and hospital use and would like full particulars concerning price, terms, delivery, dates and also samples about 18 inches square. If anyone is interested, we can furnish them with the name of the concern upon applying to this office.

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SOUTHERN NEW ENGLAND TEXTILE CLUB

The November meeting and banquet of this club were held at the Narragansett Hotel, Providence, R. I., on November 21. Following the banquet a collection was taken up for the relief of the Belgian sufferers. After adopting a number of amendments to the by-laws, Harry Phelps, deputy mayor of East London, England, made an interesting address, which was in part as follows:

"The day of the Kaiser, King and Czar has passed, and when this war is over, out of the trenches, out of the sadness that has been brought about by this great conflict that is raging, there will come a better understanding between man and man, and the laboring men and women will demand what is theirs by right, a voice in the conduct of the affairs of all of the nations.

"The industrial question of the future will centre about the laboring man. Before the outbreak of the war there were industrial disputes raging in Ireland, Colorado and South Africa, and the principal thing which underlaid each strike was the principle of the recognition of the laboring man as a real unit in industry. By this I do not mean wholly the recognition of the labor union.

"You cannot educate a man without causing him to think, and when you cause the laboring man to think, you cause him to become dissatisfied with his lot. He realizes that the older he grows the poorer he gets. And a pension system cannot help this, because the pension must necessarily be very small. There is the uncertainty of tenure of his position that is constantly disturbing the average workingman. He does not know that he will have the same position a year from now."

President Dexter announced that the next meeting would be held on December 19, when Charles T. Plunkett, of the Berkshire Cotton Mfg. Co., Adams, Mass., would make an address on "Trade Opportunities in South America."

REDUCTION IN PRICE

Prices on Gandy cotton belting have been reduced, although the same quality of product has been maintained. Complete stocks are carried at various local branches and agencies and revised price lists can be had upon application to the company's Baltimore office or their New York branch, 36 Warren St.

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TREASURY DECISIONS

T. D. 34887. Nov. 4, 1914. Braids in chief value of india rubber threads. Paragraph 358, tariff act of 1913, provides for braids and other articles of "whatever yarns, threads, or filaments composed". Held, that elastic braids composed in chief value of india-rubber thread, which is recognized as a distinct article of commerce and bought and used as such by manufacturers of braids, are, in the absence of proof to show that the terms "yarns, threads, or filaments" have a meaning in trade and commerce different from the ordinary meaning, properly dutiable under paragraph 358 of said act. In the matter of protest 737001 of Calhoun, Robbins & Co., against the assessment of duty by the collector of customs at the port of New York.

T. D. 34898. Nov. 12, 1914. Models of wearing apparel. Duty to be collected on models of wearing apparel entered under bond for exportation when the cords and seals have been removed or tampered with.

T. D. 34903. Nov. 12, 1914. Cotton Table Damask. Specific Provision. Cotton table damask and articles made from cotton table damask, being more specifically provided for as "cotton table damask, and manufactures of cotton table damask, or of which cotton table damask is the component material of chief value", than as "all other Jacquard figured manufactures of cotton or of which cotton is the component material of chief value" are dutiable at 25 per cent. ad valorem under paragraph 263, act of 1913, rather than at 30 per cent. ad valorem under paragraph 258. Administrative and Judicial Construction. It is a well established rule that where statutory language has been given a long-continued administrative and judicial construction, and there is a reenactment of the statute in substantially the same language, it is presumed that the administrative and judicial construction was adopted.

T. D. 34918. Nov. 20, 1914. Drawnwork. Tidies and bureau scarfs, from which threads have been drawn and the remaining loose threads fastened or grouped together by an additional thread inserted by hand, so that ornamental figures or designs are produced on the articles, are dutiable at 60 per cent. ad valorem as "woven fabrics or articles from which threads have been omitted, drawn, punched, or cut, and with threads introduced after weaving, forming figures or designs", under paragraph 358 of the act of 1913. In the matter of protest 733458 of K. Takayma against the assessment of duty by the collector of customs at the port of New York.

Recent Textile Patents

BOBBIN-cluster. 1,115,509. Howard D. Colman, Rockford, Ill.

BOBBIN-smash preventer. 1,115,885. Junius H. Bagwell, Greenville, S. C.

BOBBIN stripper. 1,115,115. Eppa H. Ryon, Worcester, Mass.

CLOTH-cutter's holder. 1,115,172. Albert Cash, Lewiston, Me.

CLOTH cutting machine. 1,116,335. Myer Siegel, New York.

CLOTH for testing its resistance to wearing. Preparing. 1,116,077. Adof Kertesz, Mainkur, Germany.

CLOTH, Machine for extracting moisture from. 1,115,808. David Gessner, Worcester, Mass.

DYEING machine. 1,114,464. George H. Giles, Amsterdam, N. Y.

DYEING or washing machine. 1,115,072. Henry Hennig, Paterson, N. J.

EMBROIDERY frame. 1,116,740. Adolf Rominger, Guttenberg, N. J.

EMBROIDERY-machines, Cloth-reeling device for. 1,116,693. Joseph A. Groebli, New York

FABRIC feeding mechanism. 1,114,487. Carl J. Landin, Boston, Mass.

FABRIC making machine, Bed. 1,114,402.. Gary B. Smith, Chicago, Ill.

FABRICS, Apparatus for steaming and drying textile. 1,115,982. Philipp Stapp, Munich, Germany.

FABRICS, Lisleing and dyeing vegetable. 1,116,397. Alexander N. Dubois, Philadelphia, Pa.

FABRICS, Treating textile. 1,114,501. Charles M. McLeod, New York.

FIBER-cleaning apparatus. 1,115,990. Justin K. Toles, San Francisco, Cal.

HOSIERY. 1,114,538. Robert W. Scott, Boston, Mass.

HOSIERY and the like, Apparatus for drying and shaping. 1,114,966. George Collis, Dubuque, Iowa.

KNITTING fleece-lined fabric. Mechanism for. 1,114,414. John C. Tauber, Erie, Pa.

KNITTING machine. 1,116,190. Louis N. D. Williams, Ogontz, Pa.

KNITTING machine. 1,116,444. Josephus A. Kramer, Terborg, Netherlands.

KNITTING machine. 1,115,650. Tohomas Branson, Philadelphia, Pa.

KNITTING machine, Circular. 1,117,032. Robert W. Gormly, Troy, N. Y.

KNITTING machine needle. 1,114,420. Louis N. D. Williams, Ogontz, Pa.

KNITTING machine, Rib. 1,114,539. Robert W. Scott, Boston, Mass.

KNITTING machine speed changing and stopping device. 1,116,161. Harry Swinglehurst, Philadelphia, Pa.

LOOM, Circular. 1,115,338. Vernon Royle, Paterson, N. J.

LOOM let-off or warp-tension device. 1,117,071. William Lord, New York.

LOOM filling end controller. 1,115,983. Melvin L. Stone, Hopedale, Mass.

LOOM for weaving oriental rugs. 1,117,115. Thomas P. Walsh, Boston, Mass.

LOOM-reed-locking motion. 1,114,999. George E. Mammott, Preston, England.

LOOM-shedding mechanisms. 1,116,814. George Goodline, Pawtucket, R. I.

LOOM warp stop motion. 1,116,321. Dana Osgood, Hopedale, Mass.

LOOMS, Drop device or detector for. 1,116,003. Francis E. Ashton, Exeter, N. H.

LOOMS, Filling-end-slack-controlling mechanism for. 1,115,572. Alonzo E. Rhoades, Hopedale, Mass.

LOOMS, Repairable gearing for. 1,115,557. Homer F. Livermore, Brookline, Mass.

LOOMS, Thin place preventor for. 1,116,188. William R. Widdup, Spartanburg, S. C.

LOOM,, Velvet or carpet. 1,116,411. Paul Girard, Lyon, France.

TRADE MARKS RECENTLY FILED FOR REGISTRATION

65,575. Corduroy trousers. Mark: Red Men Corduroy. Owner: The W. B. Manufacturing Co., Providence, R. I.

69,812. Cotton piece goods. Mark: Lawrence Mangh. Co. drilling. Owner: Tremont & Suffolk Mills, Lowell, Mass.

70,438. Hosiery. Mark: Ironsox. Owner: A. V. Victorius Co.,, New York.

80,239. Knitted vests. Mark: Tango. Owner: Novelty Knitting Mills, Philadelphia, Pa.

80,247. Woolen, worsted, cotton and silk wool yarns. Mark: Crystal. Owner: Paul Schulze & Co., Manchester, England.

80,292. Hosiery. Mark: Darn-Less. Owner: Davis Hosiery Mills, Chattanooga, Tenn.

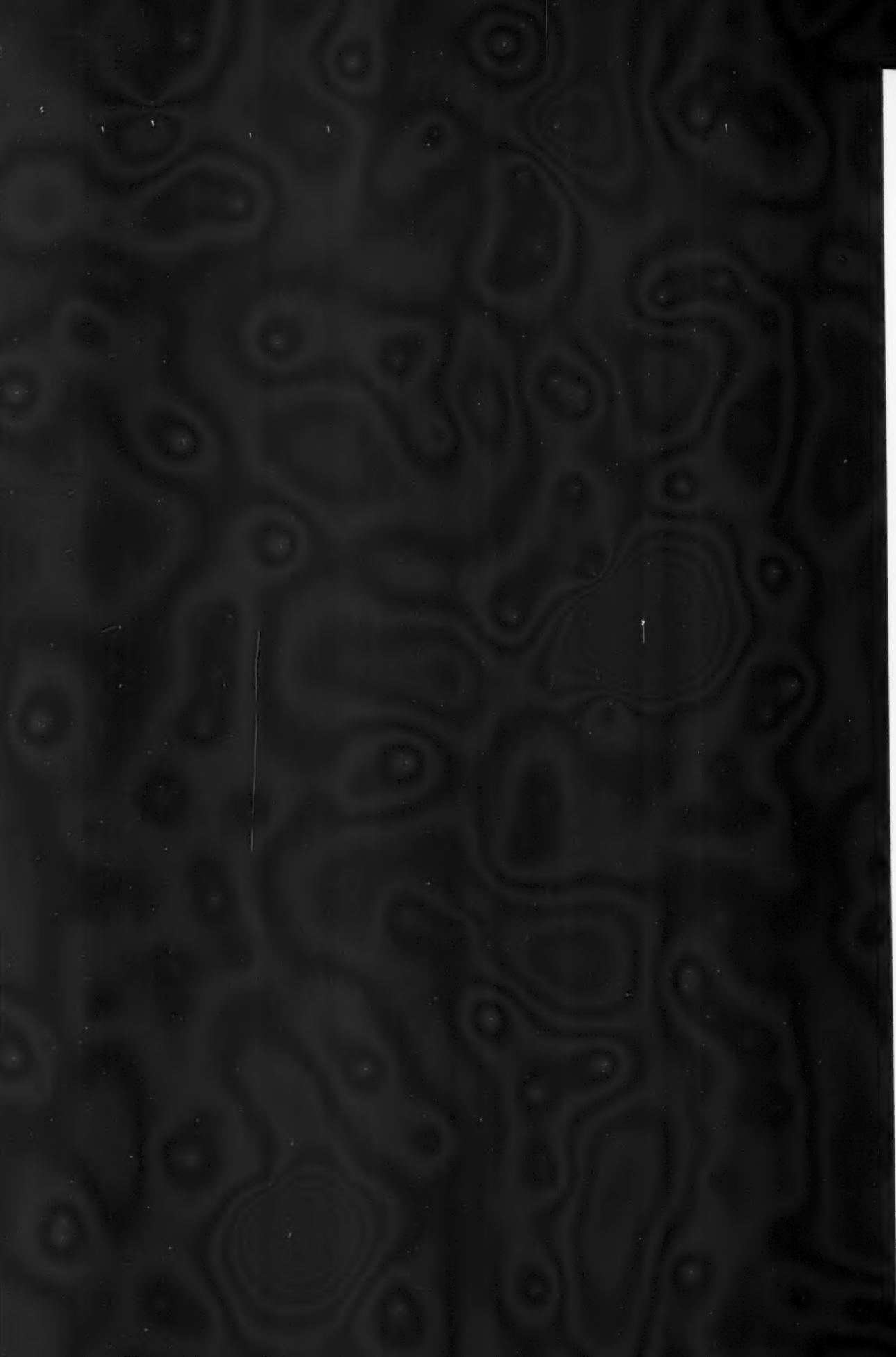
80,283. Cotton piece goods. Mark: Big Injun. Owner: Grinnell Willis & Co., New York.

80,299. Woolen piece goods. Mark: Glengarry Zephyrgals. Owner: Pawcatuck Woolen Mills, Westerly, R. I.

80,378. Velvets and plushes in the piece. Mark: Persiatex. Owner: The Salts' Textile Mfg. Co., Bridgeport, Conn.

80,403. Worsted linings. Mark: Granite. Owner: Lesher, Whitman & Co., New York.

80,444. Bed blankets. Mark: Falcon. Owner: Sears, Roebuck & Co., Chicago, Ill.



C. E. RILEY COMPANY

65 Franklin Street, .. BOSTON, MASS.

COTTON AND COTTON GOODS YARNS

DIRECT IMPORTERS OF EGYPTIAN COTTON

COTTON WOOLEN WORSTED MACHINERY

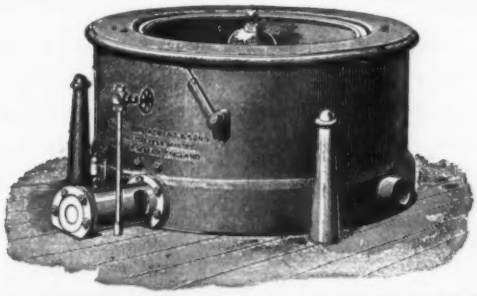
Thomas Broadbent & Sons,

Huddersfield, Eng.

PATENT DIRECT STEAM DRIVEN

HYDRO-EXTRACTORS

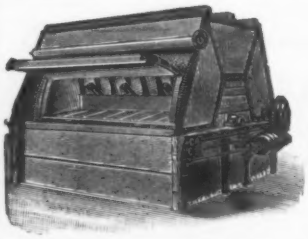
OVER 3500 IN USE. ALSO ELECTRICALLY DRIVEN



SUSPENDED ON LINKS. REQUIRING NO EXPENSIVE FOUNDATIONS.

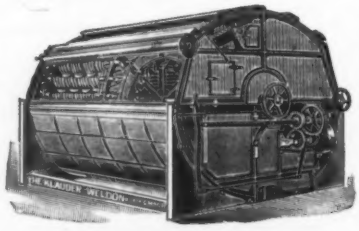
C. E. RILEY COMPANY, Sole Agents 65 Franklin St., Boston, Mass.

Machines Kept in Stock in Boston



RAW WOOL AND COTTON MACHINE.

MACHINES
sold on
2 MONTH'S TRIAL
YOU
TAKE
NO
RISK

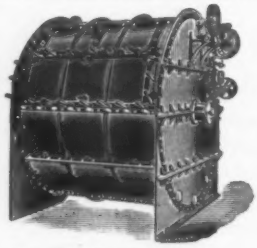


SKEIN AND SLUBBING MACHINE.

KLAUDER-WELDON DYEING MACHINE COMPANY

HUDDERSFIELD, ENGLAND. *AMSTERDAM, N. Y.*

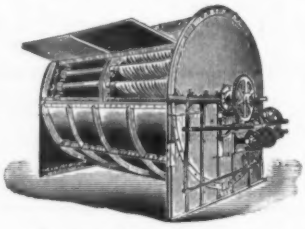
Machines for Dyeing, Bleaching and Scouring Woolen, Worsted, Cotton and Silk Skeins—Slubbing—Raw Cotton and Wool, Waste, Rags, Shoddy, Hosiery, Underwear, Hats, Caps, Knit Cloth, Tapes, etc.



SULPHUR HOSIERY MACHINE.

Special Machines for Sulphur Colors

WILL EARN THEIR COST IN
LABOR ALONE
IN FROM
6 TO 12 MONTHS
ACCORDING TO CAPACITY



SULPHUR SKEIN MACHINE.

EVERY LOOM HARNESS

Is Perfect if it is a

GARLAND

We do not hesitate to throw out every loom harness which has twisted eyes or shows imperfect knitting or finishing, and frequently throw out harnesses which probably would not be criticized by the user. This policy insures to the user not only harnesses which are as good as can be made, but harnesses which are always uniform in quality.

GARLAND MFG. CO.
SACO, MAINE

G
TRADE MARK

Buyers' Index

This department is conducted for the benefit of our subscribers. The addresses of builders of mill machinery and dealers in mill supplies, whose names appear in the following classified index, may be found upon referring to their advertisements. The Alphabetical Index to advertisers follows this classified list. Buyers who are unable to find in the classification here given such machinery or supplies as they desire, are invited to communicate with the publishers, who can, in all probability, refer them to proper sources. Advertisers whose names do not appear under headings to which they are entitled will please notify the publishers.

Air Moistening System.
——See Humidifying Apparatus.

Albone.
Roessler & Hasslacher Chemical Co.

Architects and Mill Engineers.
Cramer, Stuart W.
Dyer, W. E. S.
Ferguson, John W.
Main, Charles T.
Myrick, J. W. H.

Asbestos Covering.
Johns-Manville Co., H. W.

Asbestos Products.
Johns-Manville Co., H. W.

Asphalt Tanks.
Scaife, W. B., & Sons.

Automatic Feeds for Cotton and Wool.
Leigh & Butler.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Saco-Lowell Shops.
Sargent's, C. G., Sons.
Schofield, Wm., Co.
Smith & Furbush Mch. Co.
Woonsocket Machine & Press Co.

Back Filling.
International Pulp Co.

Bale Presses.
Saco-Lowell Shops.

Baling Presses.
Boomer & Boschert Press Co.
Philadelphia Drying Mchy, Co.
Smith & Furbush Mch. Co.

Ballers.
Saco-Lowell Shops.

Ball Bearings.
Hess-Bright Mfg. Co.
S. K. F. Ball Bearing Co.

Bandings.
Lambeth Rope Corporation.
Sternberg, Fred, & Co.

Baskets.
Diamond State Fibre Co.
Lane, W. T., & Bro.
Standard Fibre Co.

Beamers.
Crompton & Knowles Loom Works.

Bearings.
——See Ball Bearings and Roller Bearings.

Belting.
Bond, Charles, Co.
Gandy Belting Co.
Goodyear Tire & Rubber Co.
Graton & Knight Mfg. Co.
Hood, R. H., Co.
Johns-Manville Co., H. W.
Main Belting Co.
Schieren, Chas. A., Co.
——See also Mill Supplies.

Belting, Leather.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belting, Link.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belt Cement.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belt Dressing.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.
Stephenson Mfg. Co.

Belt Lacing, Leather.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Belt Tighteners.
American Tool & Machine Co.
Dodge Mfg. Co.
Hunter, James, Machine Co.
Brown, A. & F., Co.

Bindings.
——See Tapes and Braids.

Bleaching Kiers.
Arlington Machine Works.
Birch Bros. (Albert Birch, prop.)
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
New England Tank & Tower Co.
Philadelphia Drying Machinery Co.
Stearns Lumber Co., A. T.
Textile-Finishing Machinery Co.

Bleaching Materials.
Bosson & Lane.
Electro Bleaching Gas Co.
Roessler & Hasslacher Chemical Co.
Seydel Mfg. Co., The.
Wolf, Jacques & Co.
Worden Chemical Works.

Blowers and Blower Systems.
Autoforce Ventilating System.
Carrier Air Conditioning Co.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Bobbins, Spools, Shuttles, Etc.
American Supply Co.
American Textile Specialty Mchy. Co.
Kunze, Otto.
Leigh & Butler.
Tebbets, E. L., & Co.

Bobbin Winders.
Altemus, J. K.
Lever, Oswald, Co.
Universal Winding Co.

Boilers.
——See Steam Boilers.

Books.
Chittick, James.

Boxes, Box Shooks, Etc.
Diamond State Fibre Co.
Pearson, J. T.
Standard Fibre Co.

Braiding Machinery.
New England Butt Co.
Textile Machine Works.

Braids.
——See Tapes, Braids and Edgings.

Brass Hinges.
Root, C. J., Co.

Bridges.
Scaife, W. B., & Sons.

Brushers.
——See Napping Machines.

Brushes.
Cocker, M., & Co.
Felton, S. A., & Son Co.
Mason Brush Works.
Parks & Woolson Machine Co.

Brushing Machines.
Buhlmann, A. W.
Parks & Woolson Machine Co.

Burr Pickers.
Curtis & Marble Machine Co.
Sargent's, C. G., Sons.
Smith & Furbush Machine Co.

Button-Hole Machines.
Reece Button-Hole Machine Co.

Button Sewing Machines.
Union Button Sewing Co.

Calico Printers' Machinery and Supplies.
Arlington Machine Works.
Birch Bros., Somerville Mach. Wks.
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.).
Taunton-New Bedford Copper Co.
Textile-Finishing Machinery Co.
——See also Dyeing, Drying, Bleaching, Machinery, etc.

Canvas Baskets.
Lane, W. T., & Bro.

Cap Spindles.
Am. Textile Specialty Mchy. Co.

Carbonizing Machinery.
Birch Bros., Somerville Mach. Wks.
Buhlmann, A. W.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.).
Textile-Finishing Machinery Co.
Tolhurst Machine Works.

Card Clothing.
Ashworth Bros.
Buhlmann, A. W.
Firth, William, Co.
H. & B. American Machine Co.
Leigh & Butler.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Schwartz, L. H. A., & Co.

Card Feeds.
——See Automatic Feeds.

Card Grinding Machinery.
Buhlmann, A. W.
Dronsfield Bros.
Firth, William, Co.
Leigh & Butler.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Smith & Furbush Machine Co.

Card Leather.
Graton & Knight Mfg. Co.

Carding Machinery.
Saco-Lowell Shops.
Smith & Furbush Mch. Co.

Card Stampers and Repeaters.
Hodgson, Walter W.

Carpet Machinery.
Altemus, Jacob K.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Parks & Woolson Machine Co.
Philadelphia Textile Machinery Co.
Smith & Furbush Machine Co.
Textile-Finishing Machinery Co.

Carrier Aprons.
Graton & Knight Mfg. Co.

Castings.
Brown, A. & F., Co.
Decatur Fndry, Furnace & Mch. Co.
Dodge Mfg. Co.
Fairbairn, Lawson, Combe, Barbour, Ltd.
Hunter, James, Machine Co.
Lunkenhemier Co., The.
Mohn, Wm. H.
Royersford Foundry & Machine Co.
Schofield, Wm., Co.

Caustic Soda.
Wing & Evans.

Cell Driers.
Cutter, Geo. A.

Cement Pans.
Scaife, W. B., & Sons.

Chain Belts.
Morse Chain Co.

Chemists.
Little, Arthur D., Inc.
Lunkenheimer Co., The.

Chenille Machinery.
Eppler's, John, Machine Works.

Clocks.
Pettes & Randall Co.
Watchman's Clock & Supply Co.

Cloth Boards.
Chaffee Bros.
Pearson, J. T.
Richardson Brothers.
Textile-Finishing Machinery Co.

Cloth Cutting Machines.
Eastman Machine Co.
Firth, William, Co.
Weinerth Knitting & Machine Co.

Cloth Dryers.
——See Drying Machinery.

Cloth Expanders.
Arlington Machine Works.
Birch Bros. Somerville Machine Wks. (Albert Birch, prop.).
Leyland, Thomas, & Co.
Somerville Mach. Wks. (Albert Birch, prop.).

Cloth Shrinking Machinery.
Reliance Machine Works.

Alphabetical Index to Advertisers, with page numbers, follows this list.

Cloth Testers.
Perkins, B. F., & Son, Inc.
Scott, H. L., & Co.
Suter, Alfred.

Cloth Winders.
Firsching, J. A.
Parks & Woolson Machine Co.

Clutches.
American Tool & Machine Co.
Brown, A. & F., Co.
Decatur Fndry, Furnace & Mch. Co.
Dodge Mfg. Co.
Hunter, James, Machine Co.

Coal Analysis.
Little, A. D., Inc.

Cold Sawing Machine.
Burr & Son, John T.

Collars (Shaft).
Royersford Foundry & Machine Co.

Comb Aprons.
Graton & Knight Mfg. Co.

Combs (Wool and Cotton).
Crompton & Knowles Loom Works.
Firth, William, Co.
Hood, R. H., Company.
Leigh & Butler.
Richards, Atkinson & Haserick.
Riley, C. E., Company.

Commercial Vehicles.
Kissel Motor Car Co.

Compressors (Air).
Allis-Chalmers Mfg. Co.

Condensers.
Allis-Chalmers Mfg. Co.
Dean Bros. Steam Pump Works.

Conditioning and Testing.
U. S. Conditioning & Testing Co.

Conditioning Machines.
Buhlman, A. W.
Manufacturers Machine Co.

Cones (Paper).
Am. Textile Specialty Mchy. Co.
Pairpoint Corporation.

Conveying Systems.
Dodge Mfg. Co.
Sturtevant, B. F., Co.

Conveyor Belting.
Gandy Belting Co.
Goodyear Tire & Rubber Co.

Coolers (Air).
Power Specialty Co.

Cop Machinery.
Eppler's, John, Machine Works.

Cop Tubes.
Am. Textile Specialty Mchy. Co.
Pairpoint Corporation.
——See Paper Tubes.

Copper Expansion Joints.
Badger, E. B., & Sons Co.

Copper Print Rollers.
Taunton-New Bedford Copper Co.

Coppersmiths.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile-Finishing Machinery Co.

Copper Work for Dyers.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile-Finishing Machinery Co.

Corduroy and Velvet Cutting Machines.
Firth, William, Co.

Corrugated Iron and Steel.
Scaife, W. B., & Sons.

Cotton.
Riley, C. E., Company.
Schwartz, L. H. A., & Co.

Cotton Dryers.
——See Drying Machinery.

Cotton Machinery.
Am. Textile Specialty Mchy. Co.
Ashworth Bros.
Barber-Colman Co.
Brown Spin-Wright Cotton Co.
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
Cramer, Stuart W.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Dixon Lubricating Saddle Co.
Draper Company.
Easton-Burnham Co.
Elliott & Hall.
Fales & Jenks Mch. Co.
H. & B. American Machine Co.
Klauder-Weldon Dyeing Mch. Co.
Leigh & Butler.
Mason Machine Works.
Metallic Drawing Roll Co., The.
Parks & Woolson Machine Co.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Potter & Johnston Mch. Co.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Saco-Lowell Shops.
Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Stafford Co., The.
Textile-Finishing Machinery Co.
Textile Machinery Co.
Wildman Mfg. Co.
Woonsocket Machine & Press Co.

Cotton Openers and Lappers.
Firth, William, Co.
H. & B. American Machine Co.
Leigh & Butler.
Potter & Johnston Mch. Co.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Saco-Lowell Shops.

Cotton Softeners.
Bosson & Lane.
Harding & Fancourt, Inc.
Seydel Mfg. Co., The.
Wolf, Jacques & Co.

Cotton Waste Machinery.
Firth, William, Co.
Saco-Lowell Shops.
Smith & Furbush Mch. Co.

Counting Machines.
Durant Co., W. N.
Root, C. J., & Co.

Couplings (Flexible-Insulated).
Bond Co., Charles.
Brown, A. & F., Co.

Couplings (Shaft).
Royersford Foundry & Machine Co.

Crayons.
American Crayon Co.
Lowell Crayon Co.

Credits.
National Credit Office.

Cutting Machines.
Cameron Mch. Co. (Rolling up and strip cutting).
Eastman Machine Co.
Firsching, J. A.
Perkins, B. F., & Son, Inc.
Weinerth Knitting & Machine Co.

Cylinder Oil (Superheated Steam).
Power Specialty Co.

Disinfectants.
Seydel Mfg. Co., The.

Dobbies.
Crompton & Knowles Loom Works.
Halton's, Thomas, Sons.
Stafford Co., The.

Drawing Rolls.
Hood, R. H., Company.
H. & B. American Machine Co.
Metallic Drawing Roll Co.

Drinking Fountains.
Johns-Manville Co., H. W.
Rundle-Spence Mfg. Co.

Drying Boards.
Pearson, J. T.
Paramount Metal Form Drying Co.
Philadelphia Drying Mchy. Co.

Drying Machinery.
American Tool & Machine Co.
Arlington Machine Works.
Bailey, Frank.
Birch, Albert, Somerville Mach. Wks.
Birch Bros., Somerville Mach. Wks.
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
Cutter, Geo. A.
Decatur Fndry, Furnace & Mch. Co.
Hunter, Jas., Machine Co.
Kenyon, D. R., & Son.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Somerville Mach. Wks. (Albert Birch, prop.).
Sturtevant, B. F., Co.
Textile-Finishing Machinery Co.
Tolhurst Machine Works.

Dusters.
——See Wool and Waste Dusters.

Dust Collectors.
Firth, William.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Dyers Clogs.
Brown, Wm., Sons.

Dyers, Bleachers and Finishers.
Aberfoyle Mfg. Co.
Brophy's, T., Sons.
Davidson, John F.
Globe Dye Works Co.
Home Bleach & Dye Works.
Hopkinson Dyeing & Textile Wks.
Lorimer's, The Wm. H., & Sons Co.
National Silk Dyeing Co.
Peerless Co.
Utica Willowvale Bleaching Co.

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American Tool & Machine Co.
Arlington Machine Works.
Autoforce Ventilating System.
Birch, Albert, Somerville Mach. Wks.
Birch Bros., Somerville Mach. Wks.
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
Craw, J. W., Mchny. Co.
Curtis & Marble Machine Co.
Cutter, Geo. A.
Giles, J. H., Dyeing Machine Co.
Heathcote, John, & Son.
Hunt, Rodney, Mach. Co.
Hunter, James, Machine Co.
Hussong Dyeing Machine Co.
Kenyon, D. R., & Son.
Klauder-Weldon Dyeing Mch. Co.
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Manufacturers Machine Co.
National Laundry Machinery Co.
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Perkins, B. F., & Son, Inc.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Reliance Machine Works.
Schwartz, L. H. A., & Co.
Smith, Drum & Co.
Somerville Mach. Wks. (Albert Birch, prop.).
Sturtevant, B. F., Co. (Drying).
Suter, Alfred.
Textile-Finishing Machinery Co.
Tolhurst Machine Works.
U. S. Hoffman Co.

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Diamond State Fibre Co.
Hill, James, Mfg. Co.

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Bailey, Frank.
Diamond State Fibre Co.
New England Tank & Tower Co.

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New England Tank & Tower Co.
Stearns, A. T., Lumber Co.

Dye Sticks.
Bailey, Frank
Klauder-Weldon Dyeing Mch. Co.
New England Tank & Tower Co.

Dye Tubs.
——See Tanks, Tubs and Vats.

Dyestuffs and Chemicals.
American Dyewood Co.
Atteaux, F. E., & Co.
Badische Co.
Bayer Co., The, Inc.
Berlin Aniline Works.
Bischoff & Co.
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Stein, Hirsch & Co.
Sykes, Walter F., & Co.
Thayer, Ed. M., & Co.
Wing & Evans, Inc.
Wolf, Jacques & Co.
Worden Chemical Co.

Dynamos.
——See Electric Lighting.

Edgings.
——See Tapes, Braids and Edgings.

Alphabetical Index to Advertisers, with page numbers, follows this list.

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REG. U. S. PAT. OFF.

Mechanical Draft

This photograph is not an accident. It is merely an incident in the new order of things. For years this chimney supplied the draft for a large Illinois plant but gave way to a better system.

Mechanical draft has many very decided advantages over natural draft. Here they are:—

- More steam from your boilers
- Sudden demands for power easily met
- Steam Pressure can be kept absolutely constant
- In connection with mechanical stokers it tremendously increases boiler capacity—more than 200% rated capacity is often obtained
- More draft and just when you want it
- Decreases smoke
- Peak loads handled with ease
- Independent of weather conditions
- Can be used where building restrictions forbid high stacks
- Cheaper Fuel can be used
- Sawdust, screenings and mill waste can be burnt

There are hundreds and hundreds of successful Sturtevant Forced and Induced Draft Systems all over the world. Each one is designed for the special needs of the plant.

If you have insufficient draft or insufficient steam, talk with our engineers. A request for information puts you under no obligation. Catalog 178-T describes our system.

B. F. Sturtevant Company, Hyde Park, Boston, Mass.

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General Electric Co.

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Dean Bros. Steam Pump Works.
General Electric Co.

Electric Fans.
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General Electric Co.
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Philadelphia Textile Machinery Co.
Sturtevant, B. F., Co.
Westinghouse Electric & Mfg. Co.

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Cooper Hewitt Electric Co.
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National Laundry Machinery Co.

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Craig Ridgway & Son Co.
Decatur Fndry, Furnace & Mch. Co.
Economy Engineering Co.
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Salem Elevator Works.

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Textile Finishing Machinery Co.

Exhaust Heads.
Power Specialty Co.
Sturtevant, B. F., Co.

Fans—Exhaust and Ventilating.
——See Ventilating Apparatus.

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Scaife, W. B., & Sons.

Feed Water Pumps.
Dean Bros. Steam Pump Works.
Goulds Mfg. Co.

Feed Water Purifiers.
American Water Softener Co.
Scaife, W. B., & Sons.

Feeds.
——See Automatic Feeds.

Felt Rotary Washers.
Hunt, Rodney, Machine Co.

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Hunt, Rodney, Machine Co.
Smith & Furbush Machine Co.

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Case Brothers.

Fibre Boxes.
Diamond State Fibre Co.
Standard Fibre Co.

Fibre Trucks.
Diamond State Fibre Co.
Standard Fibre Co.

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American Water Softener Co.
Hungerford & Terry.
Norwood Engineering Co.
Permutit Co.
Scaife, W. B., & Sons.

Finishing Compounds.
——See Sizings.

Finishing Machinery.
——See Dyeing, Drying, Bleaching and Finishing.

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Borgner, Cyrus, Co.
Johns-Manville Co., H. W.

Fire Extinguishers.
Badger, E. B., & Sons Co.
Johns-Manville Co., H. W.

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Eureka Fire Hose Co.
Goodyear Tire & Rubber Co.

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Norwood Engineering Co.

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Home Insurance Co.

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Badger, E. B., & Sons Co.

Flexible Metal Hose.
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.

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Firth, William, Co.
Hood, R. H., Company.
H. & B. American Machine Co.
Leigh & Butler.
Metallic Drawing Roll Co.
Riley, C. E., Company.

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Bodden, Wm., & Son, Ltd.
Firth, William, Co.
H. & B. American Machine Co.
Leigh & Butler.
Textile Machinery Co.

Forges.
Sturtevant, B. F., Co.

Friction Clutches.
——See Clutches.

Friction Cones.
Evans Friction Cone Co.

Fuel Economizers.
Sturtevant, B. F., Co.

Fulling Mills for Woolen Goods.
Hunt, Rodney, Mach. Co.
Hunter, James, Mach. Co.
Kenyon, D. R., & Son.

Garnetts.
Hunter, James, Machine Co.
Leigh & Butler.
Smith & Furbush Machine Co.

Garnetted Stock.
Graves, Frank B.

Gas Blowers and Exhausters.
Sturtevant, B. F., Co.

Gas Engines.
——See Engines.

Gas Systems.
Kemp Mfg. Co.

Gaskets (Superheated Steam).
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.
Power Specialty Co.

Gauges.
Lunkenhemier Co., The.

Gears.
Brown, A. & F., Co.
Diamond State Fibre Co.
New Process Gear Corporation.

Gear Cutting Machine.
Whiton, The D. E., Co.

Generating Sets.
Allis-Chalmers Mfg. Co.
General Electric Co.
Sturtevant, B. F., Co.

Geyser Water Heater.
Sargent's Sons, C. G., Corp.

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Borne, Scrymser Co.
N. Y. & N. J. Lubricant Co.
Royersford Foundry & Machine Co.

Grinding and Polishing Machines.
Royersford Foundry & Machine Co.

Hangers.
——See Power Transmission Machinery.

Harness Twine.
Moore, C., & Co.

Harness and Frames.
Garland Mfg. Co.
Steel Heddle Mfg. Co.

Heating.
——See Ventilating Apparatus.

Heddles.
American Supply Co.
Firth, William, Co.
Lavigne & Suter.
Richards, Atkinson & Haserick.
Steel Heddle Mfg. Co.

Hoists.
——See Engines, Hoisting.

Hoisting Apparatus.
Economy Engineering Co.
Hunt, Rodney, Machine Co.
N. Y. Revolving Portable Elevator Co.

Hose.
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.

Hose, Pneumatic.
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.
Parks, G. M., Co.

Hosiery Boards.
Pearson, J. T.
Paramount Metal Form Drying Co.
Philadelphia Drying Machinery Co.

Humidifying Apparatus.
American Moistening Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.
Parks, G. M., Co.

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American Moistening Co.
Carrier Air Conditioning Co. of America.
Cramer, Stuart W.

Hydraulic Rams.
Power Specialty Co.

Hydro Extractors.
American Tool & Machine Co.
Broadbent, Thomas, & Sons.
Richards, Athkinson & Haserick.
Riley, C. E., Co.
Schaum & Uhlinger, Inc.
Schwartz, L. H. A., & Co.
Tolhurst Machine Works.

Insulating and Braiding Silks.
Sauquoit Silk Mfg. Co.

Insurance (Casualty, Fire and for Loss of Profits).
Home Insurance Co.
——See Liability Insurance.

Jacquards.
Crompton & Knowles Loom Works.
Halton's, Thomas, Sons.

Jacquard Cards.
Case Bros., Inc.

Keyseating Device.
Burr & Son, John T.

Keyway Broading Machine.
Burr & Son, John T.

Knit Goods Dryers.
——See Drying Machinery.

Knit Goods, Edgings, Trimmings, Etc.
Chapin, George W.
Cheney Bros.
Friedberger-Aaron Mfg. Co.
Krout & Fite Mfg. Co.
Weimar Bros.

Knit Goods, Finishing Machines, Crochet, Etc.
Hunt, Rodney, Machine Co.
Merrow Machine Co., The.
Nye & Tredick Co.
Scott & Williams.
Spindler, E. O.
Union Special Machine Co.

Knitting Machine Cylinders.
Paxton & O'Neill.
Stafford & Holt.

Knitting Machinery.
Acme Knitting Machine & Needle Co.
Ainslie Knitting Machine Co.
Boss Knitting Machine Co.
Brinton, H., & Co.
Claes & Fientje.
Cooper, Charles.
Crane Mfg. Co.
Domestic Machinery Works.
Eppler's, John, Machine Works.
Gormly, Robt. W., & Co.
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Hemphill Mfg. Co.
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Alphabetical Index to Advertisers, with page numbers, follows this list.

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SAVES TIME, LABOR, MONEY

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The time required to ascertain weights on the Kron Scale is limited only by the speed at which the goods can be handled. No time is required for *any purpose except to handle the goods*

Minimize your weighing costs by installing a Kron

Made in types and capacities to suit every requirement, either Dormant or Portable, with or without Tare-beam for automatic deduction of Tare-Weight.

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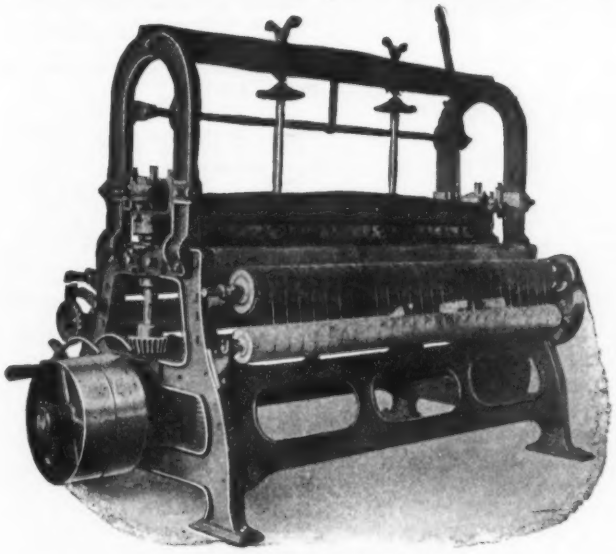

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For producing the following finishes:

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Tompkins Bros. Co.
Walther, Otto.
Wildman Mfg. Co.

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Domestic Machinery Works.
Grosser Knitting Machine Co.
Spindler, E. O.
Textile Machine Works.
Walther, Otto.

Knitting Needles and Supplies.
Acme Knitting Machine & Needle Co.
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Cooper, Charles.
Crane Mfg. Co.
Excelsior Needle Co.
Grosser Knitting Machine Co.
Ives, L. T., Co.
Keystone Latch Needle Co.
Lamb Knitting Machine Mfg. Co.
Spindler, E. O.
Wardwell Needle Co.

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Acme Staple Co.

Label Wire Stitchers.
Shoemaker, J. L., & Co.

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Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

Lace Machines.
Spindler, E. O.

Lamps, Electric.
Cooper Hewitt Electric Co.
General Electric Co.
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Westinghouse Electric & Mfg. Co.

Leather Packings.
Graton & Knight Mfg. Co.
Schieren, Chas. A., Co.

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Electro Bleaching Gas Co.

Loom Harness Straps.
Graton & Knight Mfg. Co.

Loom Pickers.
Garland Mfg. Co.
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Buhlmann, A. W.
Crompton & Knowles Loom Works.
Draper Company.
Leigh & Butler.
Mason Machine Works.
Richards, Atkinson & Haserick.
Saco-Lowell Shops.
Stafford Co., The.

Loopers.
Grosser Knitting Machine Co.
Hepworth, John W., & Co.
Leighton Machine Co.

Lubricants.
Borne, Scrymser Co.
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Lunkenheimer Co.

Lug Straps.
Graton & Knight Mfg. Co.

Lumpers.
Gerry, George, & Son.
Schofield, William, Co.

Machinery Erectors.
Kerwin, Michael.

Machinists' Tools.
Whiton, The D. E., Co.

Magnesia Products.
Johns-Manville Co., H. W.

Marking Pots.
Bradley, A. J.

Measuring and Folding Machines.
Curtis & Marble Machine Co.
Elliot & Hall.
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Mechanical Draft.
Sturtevant, B. F., Co.

Mechanical Draughtsmen.
Dodge Mfg. Co.
Sturtevant, B. F., Co.

Mechanical Engineers.
American Tool & Machine Co.
Dodge Mfg. Co.
Myrick, J. W. H.
Philadelphia Drying Machinery Co.
Sturtevant, B. F., Co.

Mercerizers.
Globe Dye Works.
Home Bleach & Dye Works.
Lorimer's, Wm. H., Sons Co.

Mercerizing Machinery.
Buhlmann, A. W.
Butterworth, H. W., & Sons.
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Textile-Finishing Machinery Co.
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Metallic Packing.
Power Specialty Co.

Metallic Rolls.
Metallic Drawing Roll Co.

Mill Architects.
——See Architects and Mill Engineers.

Mill Builders and Engineers.
Dean, F. W., Inc.
Ferguson, John W.
Main, Charles T.

Mill Piping.
Parks Co., G. M.

Mill Supplies.
American Supply Co.
Bamford & Smith.
Bond, Charles, Co.
Brown's, Wm., Sons.
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Firth, William, Co.
Garland Mfg. Co.
Goodyear Tire & Rubber Co.
Graton & Knight Mfg. Co.
Hess-Bright Mfg. Co.
Hood, R. H., Co.
Kunze, Otto.
Lane, W. T., & Bro.
Leigh & Butler.
Lunkenheimer Co.
N. Y. & N. J. Lubricant Co.
Pairpoint Corporation.
Philadelphia Drying Machinery Co.
Powell, Wm., Co.
Richards, Atkinson & Haserick.
Richardson Bros.
Riley, C. E., Company.
Stephenson Mfg. Co.

Millwrights.
Brown, A. & F., Co.
Hunter, James, Machine Co.

Moth Exterminator.
Berlin Aniline Works.

Motors.
——See Electric Motors.

Motor Trucks.
Kissel Motor Car Co.

Napping Machinery.
Birch Bros., Somerville Mach. Wks.
Buhlmann, A. W.
Curtis & Marble Machine Co.
Leigh & Butler.
Parks & Woolson Machine Co.
Schwartz, L. H. A., & Co.

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Spindler, E. O.

Nolls (Silk).
Ryle, Wm., & Co.

Non-fluid Oils.
N. Y. & N. J. Lubricant Co.

Oil Cups.
Lunkenheimer Co.

Oil Engines.
——See Engines.

Oils.
Borne, Scrymser Co.
Harding & Fancourt, Inc.
N. Y. & N. J. Lubricant Co.

Oil Stencil and Press Board Paper.
Bradley, A. J.

Oiling Systems.
Lunkenheimer Co.

Overseaming Machines.
Merrow Machine Co.
Spindler, E. O.

Packing (Asbestos).
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.

Packings (Leather).
Graton & Knight Mfg. Co.

Packings (Metallic).
Goodyear Tire & Rubber Co. (Flange) (Hydraulic) (Rod) (Sheet) (Valve Steam).
Johns-Manville Co., H. W.

Packing (Rubber).
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.

Paints.
Johns-Manville Co., H. W.
U. S. Gutta Percha Paint Co.

Pantagraphs for Mill Engraving.
Johnson, C. A., & Co.

Paper.
Merwin Paper Co.
Richardson Bros.

Paper Boards.
Merwin Paper Co.

Paper Cones and Tubes.
Am. Textile Specialty Mchy. Co.
Pairpoint Corporation.

Patent and Trade Mark Solicitors.
Crosby & Gregory.
Heard, Smith & Tennant.
Munn & Co.

Penstocks.
Hunt, Rodney, Machine Co.
Stearns Lumber Co., A. T.

Perforated Metal.
Allis-Chalmers Mfg. Co.
Beckley Perforating Co.

Peroxide of Hydrogen.
Roessler & Hasslacher Chemical Co.

Peroxide of Sodium.
Roessler & Hasslacher Chemical Co.

Pickers, Leather.
Garland Mfg. Co.
Graton & Knight Mfg. Co.

Pinking Machines.
Cameron Machine Co.

Pipes and Fittings.
Parks, G. M., Co.
Scaife, W. B., & Sons.

Plush Machinery.
Buhlmann, A. W.

Pneumatic Conveying.
——See Ventilating.

Portable Elevators.
Economy Engineering Co.
N. Y. Revolving Portable Elevator Co.

Power Transmission Machinery.
Allis-Chalmers Mfg. Co.
American Pulley Co.
American Tool & Machine Co.
Brown, A. & F., Co.
Brown Spin-Wright Cotton Co.
Cresson-Morris Co.
Dodge Mfg. Co.
Evans, G. Frank.
Fairbairn, Lawson, Combe, Barbour, Ltd.
Hess-Bright Mfg. Co.
Hunt, Rodney, Machine Co.
Hunter, James, Machine Co.
Leffel, James, & Co.
Morse Chain Co.
Perkins, B. F., & Son, Inc.
Reeves Pulley Co.
Royersford Foundry & Machine Co.
Saginaw Manufacturing Co.

Alphabetical Index to Advertisers, with page numbers, follows this list.

Schofield, William, & Co.
Sellers, William, & Co.
S. K. F. Ball Bearing Co.
Textile Finishing Machinery Co.
Tolhurst Machine Works.

Preparatory Machinery (Cotton).
Firth, William, Co.
H. & B. American Machine Co.
Leigh & Butler.
Potter & Johnston Mch. Co.
Riley, C. E., Company.
Saco-Lowell Shops.

Preparatory Machinery (Wool and Worsted).
Smith & Furbush Mch. Co.

Presses (Drill and Punch).
Boomer & Boschert Press Co.
Butterworth, H. W., & Sons Co.
Craw, J. W., Machinery Co.
Curtis & Marble Machine Co.
Phila. Drying Machinery Co.
Reliance Machine Works.
Royersford Foundry & Machine Co. (also Trimming Presses).
Saco-Lowell Shops.
Spence & Rideout.
Textile-Finishing Machinery Co.
U. S. Hoffman Co.
Woonsocket Machine & Press Co.

Press Boards.
Case Bros., Inc.
Diamond State Fibre Co.

Press Papers.
Merwin Paper Co.
Philadelphia Drying Mchy. Co.
Richardson Brothers (Importers and Dealers).

Pulley Covering.
Graton & Knight Mfg. Co.

Pulleys.
——See Power Transmission Machinery.

Pumps.
Allis-Chalmers Mfg. Co.
Blake-Knowles Steam Pump Works.
Dean Bros. Steam Pump Works.
Deane Steam Pump Co.
Goulds Mfg. Co.
Hunt, Rodney, Machine Co.
Philadelphia Drying Machinery Co.
Textile-Finishing Machinery Co.
Worthington, Henry R.

Pump Governors.
Dean Bros. Steam Pump Works.

Punches and Dies.
Royersford Foundry & Machine Co.

Purifying and Filtration Plants.
American Water Softener Co.
Dodge Mfg. Co.
Hungerford & Terry.
Norwood Engineering Co.
Permutit Co.
Scaife, Wm. B., & Sons.

Quillers.
Foster Machine Co.
Payne, G. W., & Co.
Universal Winding Co.

Rag Pickers.
Schofield, Wm., Co.
Smith & Furbush Machine Co.

Raw Hide Gears.
New Process Gear Corporation.

Reed and Harness Manufacturers.
American Supply Co.

Reed Making and Brushing Machines.
Lavigne & Suter.

Reed Wire.
Lavigne & Suter.

Revolving Portable Elevators.
N. Y. Revolving Portable Elevator Co.

Ribbons.
Cheney Bros.
Macungie Silk Co.

Rodent Exterminator.
Danysz Virus, Ltd.

Roller Bearings.
Royersford Foundry & Machine Co. (also Babbitted Ring Oiling).

Roller Covers.
Graton & Knight Mfg. Co.

Roller Logs.
Hartwell, G. E.

Roofing.
Barrett Mfg. Co.
Johns-Manville Co., H. W.

Rope Dressing and Preservative.
Dodge Mfg. Co.

Rope Transmission.
Brown, A. & F., Co.
Cresson-Morris Co.
Dodge Mfg. Co.
Hunter, James, Machine Co.
Lambeth Rope Corporation.

Roving Cans.
American Vulcanized Fibre Co.
Diamond State Fibre Co.
Firth, William, Co.
Hill, James, Mfg. Co.
Standard Fibre Co.

Roving Reels.
Scott, H. L., & Co.

Rub Aprons.
Graton & Knight Mfg. Co.

Rubber Goods.
Goodyear Tire & Rubber Co.

Safety Set Screws.
Allen Manufacturing Co.

Sanitary Fountains.
Johns-Manville Co., H. W.
Rundle-Spence Mfg. Co.

Sash Operators.
Drouve Co., G.

Scales (Automatic).
American Kron Scale Co.

Scales.
National Scale Co.
Torsion Balance Co.

Scallop Machines.
Merrow Machine Co.

Schappe (French Spun).
Suter, Alfred.

Schools.
International Correspondence Schools.
Lowell Textile School.
New Bedford Textile School.
Philadelphia Textile School.

Scouring Machines.
——See Wool Washing, Preparing and Drying Machinery.

Second-hand Machinery.
——See Mchy. Dealers, also Classified Ads.

Selling Agent.
Shirley, Harold R.

Separators (Yarn).
Draper Co., The.
H. & B. American Machine Co.

Sewing Machine Benches.
American Tool & Machine Co.

Sewing Machines and Supplies.
Arlington Machine Works.
Birch, Albert, Somerville Machine Works.
Birch Bros., Somerville Mach. Wks.
Curtis & Marble Machine Co.
Dinsmore Mfg. Co.
Fales, L. F.
Somerville Machine Works (Albert Birch, prop.).
Spindler, E. O.
Textile Finishing Machinery Co.
Union Special Machine Co.
Willcox & Gibbs.

Shafting Hangers, Etc.
——See Power Transmission Machinery.

Shafting Rings (Leather).
Graton & Knight Mfg. Co.

Shearing Machinery.
——See Dyeing, Drying, Bleaching and Finishing.

Sheet Metal Work.
Scaife, W. B., & Sons.

Shoddy Pickers.
Curtis & Marble Machine Co.
Smith & Furbush Machine Co.

Shuttles.
——See Bobbins, Spools, Shuttles, Etc.

Silk Dryers.
——See Drying Machinery.

Silk Machinery.
Arlington Machine Works.
Buhlmann, A. W.
Butterworth, H. W., Sons Co.
Crompton & Knowles Loom Works.
Leigh & Butler.
Lowell Machine Shop.
Mason Machine Works.
Richards, Atkinson & Haserick.
Schwartz, L. H. A., & Co.
Suter, Alfred.
Textile-Finishing Machinery Co.

Silk Mill Supplies.
Hall, I. A., & Co.

Silk Noils.
Fawcett, Hughes.

Silks (Raw).
Rolker, F.
Villa, A. P., & Bros.

Silk Specialist, Consulting.
Chittick, James.

Silk Throwsters.
Villa, A. P., & Bros.

Singe Plates.
Butterworth, H. W., Sons Co.
Taunton-New Bedford Copper Co.
Textile-Finishing Machinery Co

Singeing Machines.
Birch Bros., Somerville Mach. Wks.
Butterworth, H. W., Sons Co.
Curtis & Marble Machine Co.
Leigh & Butler.
Philadelphia Drying Machinery Co.
Smith, Drum & Co.
Textile Finishing Machinery Co

Sizing, Starch and Gums.
American Diamalt Co.
Arabol Mfg. Co.
Corn Products Refining Co.
Keever Starch Co.
Malt-Diastase Co.
Seydel Mfg. Co., The.
Stein, Hirsh & Co.
Wolf, Jacques & Co.
Worden Chemical Works.

Skein Mercerizing Machines.
Buhlmann, A. W.

Skylights.
Drouve Co., G.
Van Noorden, E., & Co.

Slashers.
Leigh & Butler.
Riley, C. E., Company.
Saco-Lowell Shops.
Textile-Finishing Machinery Co.

Slitting & Rewinding Machines.
Cameron Machine Co.

Soaps.
Dobbins Soap Mfg. Co.
Draper, J. O., Co.
Seydel Mfg. Co., The.
Wrisley, Allen B., Co.

Soaping Machines.
Hunt, Rodney, Machine Co.

Softeners.
——See Cotton Softeners.

Spindles.
Bamford & Smith.
Bodden, Wm., & Son, Ltd.
Buckley's, Benjamin, Sons.
Draper Company.
Easton & Burnham Mach. Co.
H. & B. American Machine Co.
Leigh & Butler.
Lowell Machine Shop.
Richards, Atkinson & Haserick.
Riley, C. E., Company.

Spindle Tubes.
Bamford & Smith.
Firth, William, Co.
Lowell Machine Shop.
Richards, Atkinson & Haserick.
Riley, C. E., Company.

Spinning Frames.
Fairbairn, Lawson, Combe, Barbour, Ltd.

Spinning Frame Saddles.
Dixon Lubricating Saddle Co.

Spinning Rings.
Draper Company.
H. & B. American Machine Co.
Whitinsville Spinning Ring Co.

Alphabetical Index to Advertisers, with page numbers, follows this list.

Spinning Tubes.
Buckley's, Benjamin, Sons.
Lowell Machine Shop.
Speed and Stephenson.

Spools.
——See Bobbins, Spools, Shuttles, Etc.

Spoolers.
Allen, A. W.
Draper Company.
Easton & Burnham Machine Co.
Lindsay, Hyde & Co.
Payne, George W., & Co.
Saco-Lowell Shops.
Smith & Furbush Machine Co.
Spindler, E. O.

Spot and Stain Removing Machine.
Sanitex Co., The.

Stacks.
Scaife, W. B., & Sons.

Steam Boilers.
Scaife, W. B., & Sons.

Steam Engines.
——See Engines.

Steam Jacket Kettles.
Badger, E. B., & Sons Co.
Butterworth, H. W., & Sons Co.
Textile-Finishing Machinery Co.

Steam Pumps.
Dean Bros. Steam Pump Works.
Goulds Manufacturing Co., The.

Steam Specialties.
Butterworth, H. W., Sons Co.
Lunkenheimer Co., The.
Powell, Wm., Co.
Sargent's Sons, C. G., Corp.
Sturtevant, B. F., Co.
Textile-Finishing Machinery Co.

Steam Traps.
Sturtevant, B. F., Co.

Steam Turbines.
Allis-Chalmers Mfg. Co.
General Electric Co.
Sturtevant, B. F., Co.
Westinghouse Electric & Mfg. Co.

Stencil Machines.
Bradley, A. J.

Stock Dryers.
——See Drying Machinery.

Stools (Steel).
Angle Steel Stool Co.

Stocking Dryers.
——See Drying Machinery.

Stop Motion for Knitting Machines.
Boss Knitting Machine Works.
Crawford Manufacturing Co.

Stop Motion for Looms.
——See Warp Stop Motions.

Strappings (Leather).
Graton & Knight Mfg. Co.

Superheaters, Foster.
Power Specialty Co.

Tanks, Tubs and Vats.
Hall, Amos H., Son & Co.
Klauder-Weldon Dyeing Mach. Co.
New England Tank & Tower Co.
Textile-Finishing Machinery Co.
Tolhurst Machine Works.
Scaife, W. B., & Sons.
Stearns, A. T., Lumber Co.
Woolford, G., Tank Mfg. Co.

Tapes, Braids and Edgings.
Barton, F. C.
Bias Narrow Fabric Co.
Friedberger-Aaron Mfg. Co.
Industrial Tape Mills Co.
Krout & Fite Mfg. Co.
Lambeth Rope Corporation.
Macungie Silk Co.
Maurer, F. W., & Sons Co.
Weimar Bros.

Teasels.
Suter, Alfred.

Telephones.
Pettes & Randall Co.

Temples.
Draper Co.

Testing Apparatus.
Perkins, B. F., & Son, Inc.
Scott, H. L., & Co.
Torsion Balance Co.

Textile Chemists.
Little, A. D., Inc.

Textile Engineers.
Buhlmann, A. W.
Dodge Mfg. Co.
Myrick, J. W. H.
Suter, Alfred.
——See also Architects and Mill Engineers.

Textile Schools.
——See Schools.

Thread Guides.
Palmer, I. E., Co.

Time Detectors.
Watchman's Clock & Supply Co.

Time Recorders.
Follett Time Recording Co.
International Time Recording Co.

Tiering Machines.
Economy Engineering Co.
N. Y. Revolving Portable Elevator Co.

Tinsel Machinery.
Eppler's, John, Machine Works.

Tools for Turning Calender Rolls.
Dickinson, Thomas L.

Top Cutting Machines.
Wildman Mfg. Co.

Trade Mark Law.
Crosby & Gregory.
Heard, Smith & Tennant.

Trade Mark Stamps.
Parks & Woolson Machine Co.

Trucks.
Angle Steel Stool Co.
Bailey, Frank.
Diamond State Fibre Co.
Lane & Bro., W. T.
National Scale Co.

Tubes.
Pairpoint Corporation.
Standard Fibre Co.

Tubs.
——See Tanks, Tubs and Vats.

Turbines.
——See Water Wheels.

Twine.
Moore, C., & Co.
Richardson Bros.

Twist Counters.
Scott, H. L., & Co.
Suter, Alfred.

Twisting Machinery.
Saco-Lowell Shops.
Smith & Furbush Machine Co.

Underwear Press.
Craw, J. W., Machinery Co.
U. S. Hoffman Co.

Vacuum Extracting Machines.
Buhlmann, A. W.

Valves.
Lunkenheimer Co.
Powell, Wm., Co.

Valves (Rubber).
Goodyear Tire & Rubber Co.
Johns-Manville Co., H. W.

Variable Speed Transmission.
Cutter, Geo. A.
Hunter, James, Machine Co.
Reeves Pulley Co.

Vats.
——See Tanks, Tubs and Vats.

Velvet Machinery.
Buhlmann, A. W.
Butterworth, H. W., & Sons Co.
Schwartz, L. H. A., & Co.
Textile Finishing Machinery Co.

Ventilating Apparatus.
American Moistening Co.
Autoforce Ventilating System.
Berry, A. Hun.
Carrier Air Conditioning Co. of America.
General Electric Co.
Parks, G. M., Co.
Perkins, B. F., & Son, Inc.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Sargent's, C. G., Sons.
Sturtevant, B. F., Co.
Tolhurst Machine Works.

Ventilating Engineer.
Myrick, J. W. H.

Warpers.
Crompton & Knowles Loom Works.
Draper Company.
Saco-Lowell Shops.
Smith & Furbush Machine Co.

Warping.
Smith, Alexander & Son.

Warping and Beaming Machinery.
Altemus, J. K.
Crompton & Knowles Loom Works.
Draper Company.
Lever, Oswald, Co.
Smith & Furbush Machine Co.
Suter, Alfred.

Warp Stop Motions.
Crompton & Knowles Loom Works.
Draper Company.

Warp Tying Machines.
Barber-Colman Co.

Washers (Cloth).
Arlington Machine Works.
Birch, Albert, Somerville Machine Works.
Birch Bros., Somerville Mach. Wks.
Butterworth, H. W., & Sons Co.
Hunt, Rodney, Machine Co.
Hunter, James, Machine Co.
Kenyon, D. R., & Son.
Philadelphia Drying Machinery Co.
Somerville Machine Works (Albert Birch, prop.).
Textile-Finishing Machinery Co.

Washers (Leather).
Graton & Knight Mfg. Co.

Washers (Rubber).
Goodyear Tire & Rubber Co.

Washing Soda.
Ford, J. B., Co.

Waste Reclaiming Machinery.
Saco-Lowell Shops.
Smith & Furbush Machine Co.

Waste Washing Machines.
American Tool & Machine Co.

Watchman's Clocks.
Pettes & Randall Co.
Watchman's Clock and Supply Co.

Water Chemists.
American Water Softener Co.
Hungerford & Terry.
Permutit Co.
Scaife, W. B., & Sons Co.

Waterproofing Materials.
Barrett Mfg. Co.
Johns-Manville Co., H. W.

Water Purifiers and Filters.
American Water Softener Co.
Hungerford & Terry.
Permutit Co.
Scaife, W. B., & Sons Co.

Water Softeners.
American Water Softener Co.
Dodge Mfg. Co.
Ford, J. B., Co.
Hungerford & Terry.
Norwood Engineering Co.
Permutit Co.
Scaife, W. B., & Sons Co.

Water Towers.
New England Tank & Tower Co.

Water Wheel Governors.
Hunt, Rodney, Machine Co.

Water Wheels.
Allis-Chalmers Mfg. Co.
Hunt, Rodney, Machine Co.
Leffel, James, & Co.

Weighing Apparatus.
American Kron Scale Co.

Winders (Cotton, Woolen and Worsted).
Altemus, J. K.
Buhlmann, A. W.
Crompton & Knowles Loom Works.
Easton & Burnham Machine Co.
Firsching, J. A.
Foster Machine Co.
Leigh & Butler.
Lever, Oswald, Co.
Lindsay, Hyde & Co.
Parks & Woolson Machine Co.
Payne, Geo. W., & Co.
Saco-Lowell Shops.
Smith & Furbush Machine Co.
Universal Winding Co.

Alphabetical Index to Advertisers, with page numbers, follows this list.

Winders (Back).
Allen, A. W.

Winders (Hosiery).
Allen, A. W.
Altemus, Jacob K.
Easton & Burnham Machine Co.
Foster Machine Co.
Grosser Knitting Machine Co.
Leighton Machine Co.
Lever, Oswald, Co., Inc.
Payne, G. W., & Co.
Saco-Lowell Shops.
Spindler, E. O.
Universal Winding Co.

Wood Pulleys.
Dodge Mfg. Co.
Saginaw Manufacturing Co.

Wool.
Richards, Atkinson & Haserick.

Wool Cleaning Compound.
Ford, J. B., Co.

Wool Combing Machinery.
Crompton & Knowles Loom Works.
Leigh & Butler.
Richards, Atkinson & Haserick.
Riley, C. E., Company.

Wool Dryers.
——See Drying Machinery.

Wool Oil Compound.
Marston, John P.

Wool and Waste Dusters.
Leigh & Butler.
Sargent's, C. G., Sons.
Schofield, Wm., Co.
Smith & Furbush Machine Co.

Woolen and Worsted Machinery.
Allen, A. W.
American Tool & Machine Co.
Altemus, Jacob K.
Arlington Machine Works.
Birch, Albert, Somerville Machine Works.
Birch Bros., Somerville Mach. Wks.
Brecher, Felix.
Buhlmann, A. W.
Butterworth, H. W., Sons Co.
Crompton & Knowles Loom Works.
Curtis & Marble Machine Co.
Fales, L. F.
Hood, R. H., Co.
Hunt, Rodney, Machine Co.
Hunter, Jas., Machine Co.
Jefferson, Edw., & Bro.
Kenyon, D. R., & Son.
Klauder-Weldon Dyeing Mach. Co.
Leigh & Butler.
Parks & Woolson Machine Co.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Saco-Lowell Shops.
Sargent's, C. G., Sons.
Schofield, Wm., Co.
Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Somerville Machine Works (Albert Birch, prop.).
Textile-Finishing Machinery Co.
Woonsocket Machine & Press Co.

Wool Oils.
Borne, Scrymser Co.
Seydel Mfg. Co.

Wool Washing, Preparing and Drying Machinery.
Hunter, Jas., Machine Co.
Leigh & Butler.
Philadelphia Drying Machinery Co.
Philadelphia Textile Machinery Co.
Richards, Atkinson & Haserick.
Riley, C. E., Company.
Sargent's, C. G., Sons.
Schwartz, L. H. A., & Co.
Smith & Furbush Machine Co.
Speed & Stephenson.
Tolhurst Machine Works.

Yarn Conditioning Machines.
Emerson Apparatus Co.
Sargent's, C. G., Sons.
Suter, Alfred.

Yarn Dryers.
——See Drying Machinery.

Yarn Testers.
Birch Bros., Somerville Mach. Wks.
Scott, H. L., & Co.
Suter, Alfred.
Torsion Balance Co., The.

YARNS, THREADS, ETC.

Carpet Yarns.
Lees, Jas., & Sons Co.

Cotton Yarns.
Jamieson, Jas. B.
Jenckes Spinning Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Mitchell, Jas. E., & Co.
Montgomery, J. R., Co.
Monument Mills.
Orswell Mills.
Porter, T. J., & Sons.
Sternberg, Fred, & Co.
Street, J. F., & Co.
Whitman, William, Co.

Flax, Hemp, Jute and Ramie.
Fawcett, Hughes.
Littauer, Ludwig.
Mindlin & Rosenman.
Porter, T. J., & Sons.
Ramie Agency.
Sternberg, Fred, & Co.

Gassed Yarns.
Jamieson, Jas. B.
Littauer, Ludwig.
Mindlin & Rosenman.
Sternberg, Fred, & Co.
Whitman, William, Co.

Glazed Yarns.
Jamieson, Jas. B.
Littauer, Ludwig.
Lorimer's, Wm. H., & Sons Co.
Mindlin & Rosenman.
Orswell Mills.
Sternberg, Fred, & Co.
Whitman, William, Co.

Harness Twine.
Fawcett, Hughes.
Moore, C., & Co.
Sternberg, Fred, & Co.

Hosiery and Knitting Yarns.
Hyde, E. S.
Jenckes Spinning Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Mitchell, Jas. E., & Co.
Monument Mills.
Porter, T. J., & Sons.
Sternberg, Fred, & Co.
Whitman, William, Co.

Linen Yarns.
Fawcett, Hughes.
Lindsay, Thompson & Co., Ltd.
Porter, T. J., & Sons.

Mercerized Yarns.
Aberfoyle Mfg. Co.
American Silk Spinning Co.
Jamieson, Jas. B.
Littauer, Ludwig.
Mindlin & Rosenman.
Porter, T. J., & Sons.
Sternberg, Fred, & Co.
Whitman, William, Co.

Mohair Yarns.
Littauer, Ludwig.
Mindlin & Rosenman.
Montgomery, J. R., Co.
Whitman, William, Co.

Novelty Yarns, Tinsels, Silk Nells, Etc.
American Silk Spinning Co.
Jamieson, Jas. B.
Jenckes Spinning Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Montgomery, J. R., Co.
Nonotuck Silk Co.
Sternberg, Fred, & Co.
Villa, Stearns & Co.

Silk Yarns.
American Silk Spinning Co.
Cheney Bros.
Nonotuck Silk Co.
Ryle, Wm., & Co.
Sauquoit Silk Mfg. Co.
Street, J. F., & Co.
Suter, Alfred.
Villa, Stearns & Co.

Silk Yarns (Artificial).
Littauer, Ludwig.
Mindlin & Rosenman.

Woolen and Merino Yarns.
Eaton Rapids Woolen Mills.
Hyde, E. S.
Jenckes Spinning Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Shirley, Harold R.
Street, J. F., & Co.

Woolen Yarns.
Jamieson, Jas. B.
Lees, Jas., & Sons Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Shirley, Harold R.

Worsted Yarns.
Lees, Jas., & Sons Co.
Littauer, Ludwig.
Mindlin & Rosenman.
Shirley, Harold R.
Whitman, William, Co.

Alphabetical Index to Advertisers, with page numbers, follows this list.

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Soft Water is the Prime Textile Factor

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30 EAST 42nd STREET, NEW YORK CITY

Alphabetical Index to Advertisers

Aberfoyle Mfg. Co. 181b
Acme Ktg. Mch. & Needle Co.. 235
Acme Staple Co. 237
Ainslie Knitting Machine Co. .. 236
Allen Mfg. Co. 211
Allis-Chalmers Mfg. Co. 207
Altemus, Jacob K. ..... —
American Crayon Co. 209
American Diamalt Co. 218
American Dyewood Co. 179
American Kron Scale Co. 151
American Moistening Co. 31
American Pulley Co., The 210
American Silk Spinning Co. 199
American Supply Co. 208
Am. Textile Specialty Mchy. Co. 15
American Tool & Machine Co... 34
American Vulcanized Fibre Co. 36
American Water Softener Co. .. 219
Angle Steel Stool Co. 189
Arabol Mfg. Co., The 219
Arlington Machine Works 212
Ashworth Bros. 210
Atteaux, F. E., & Co. 219
Autoforce Ventilating System .. 162

Badische Company 42
Badger, E. B., & Sons Co. 30
Bailey, Frank 220
Bamford & Smith 212
Barber-Colman Co. 212
Barrett Manufacturing Co. 204
Barton, F. C. 208
Bayer Co., The, Inc. 221
Beckley Perforating Co. 195
Berlin Aniline Works 218
Berry, A. Hun 37
Bias Narrow Fabric Co. 208
Birch, Albert 28
Birch Bros. 28
Bischoff, C., & Co. 221
Blake & Knowles Steam Pump Works ..... —
Bodden, Wm., & Son, Ltd. 32
Bond, Charles, Co. 189
Boomer & Boschert Press Co. .. 190
Borgner, Cyrus, Co. 215
Borne, Scrymser Co. 30
Boss Knitting Machine Works.. 234
Bosson & Lane 217
Bradley, A. J. 188
Breedon's Son, Wm. 239
Brinton, H., & Co. 233
Broadbent, Thomas, & Sons 145
Brophy's Sons, T. 214
Brown, A. & F., Co. 190
Brown's, Wm., Sons 174
Brown Spin-Wright Cotton Co.. 168
Buckley's, Benj., Son 188
Buhlmann, A. W. 190
Bukey Service 163
Burr, John T., & Son 174
Butterworth, H. W., & Sons Co. 1

Cameron Machine Co. 182
Carrier Air Conditioning Co. of America 7
Case Brothers 238
Cassella Color Co. 216
Chaffee Bros.' Company 174
Cheney Bros. 196
Chittick, James 201
Claes & Flentje 236
Cocker, M., & Co. ..... —
Continental Latch Needle Co. .. 239
Cooper, Charles 234
Cooper Hewitt Electric Co. 198
Corn Products Refining Co. 19
Cramer, Stuart W. 22
Crane Mfg. Co. 229
Craw, J. W., Machinery Co. 172
Crawford Manufacturing Co. ... 232
Cresson-Morris Co. 38
Crompton & Knowles Loom Works 16
Crosby & Gregory 162
Curtis & Marble Machine Co. ... 211
Cutter, George A. 211

Danysz Virus, Ltd. 208
Davidson, John F. 214
Dean Bros. Steam Pump Works 240
Deane Steam Pump Co. ..... —
Decatur Foundry, Furnace & Machine Co. 206
Diamond State Fibre Co. 206
Dickinson, Thomas L. 174
Dinsmore Mfg. Co. 37
Dixon Lubricating Saddle Co... 210
Dobbins Soap Mfg. Co. 219
Dodge Mfg. Co. 184
Domestic Machinery Works 238
Draper Company 2-3
Draper, J. O., Co. 194
Dronsfield Bros., Ltd. 209
Drouve, G., Co. 172
Durant Co., W. N. 177
Dyer, W. E. S. 162

Eastman Machine Co. Outside Back Cover
Easton & Burnham Mchy. Co... —
Eaton Rapids Woolen Mills 195
Economy Engineering Co. 210
Electro Bleaching Gas Co. 221
Elliott & Hall 174
Emerson Apparatus Co. ..... —
Eppler's, John, Machine Works 238
Eureka Fire Hose Mfg. Co. 209
Evans Friction Cone Co. 211
Excelsior Needle Co. 239

Fairbairn, Lawson, Combe, Barbour, Ltd. 26
Fales, L. F. 232
Fales & Jenks Machine Co. ..... —
Farbwerke-Hoechst Co. 217
Fawcett, Hughes 188
Felton, S. A., & Son Co. 206
Ferguson, John W. 162
Firsching, Joseph A. 239
Follett Time Recording Co. 210
Ford, J. B., Co. 178
Foster Machine Co. 4
Friedberger-Aaron Mfg. Co. 223

Gandy Belting Co. 39
Garland Mfg. Co. 146
Geisenheimer & Co. 215
General Electric Co. Inside Back Cover
Gerry, Geo. W., & Son ..... —
Giles Dyeing Mch. Co., John H. 168
Globe Dye Works Co. 214
Goodyear Tire & Rubber Co. ... —
Gormley, Robert W., & Co. 237
Goulds Mfg. Co. 27
Graton & Knight Mfg. Co. 21
Grosser Knitting Machine Co. .. —

Hall, Amos H., Son & Co. 220
Hall, I. A., & Co. 201
Halton's, Thomas, Sons 32
H. & B. American Machine Co. 44
Harding & Fancourt, Inc. 164
Hartwell, Geo. E. 164
Heard-Smith & Tennant 162
Heathcote, John, & Son 36
Hemphill Mfg. Co. 225
Hepworth, John W., & Co. 231
Hess-Bright Mfg. Co. 16b
Hill, James, Mfg. Co. 209
Hodgson, Walter W. 189
Home Bleach & Dye Works 214
Home Insurance Co. 203
Hood, R. H., Company 209
Hopkinson Dyeing & Textile Works 214
Hungerford & Terry 222
Hunt, Rodney, Machine Co. 37
Hunter, Jas., Machine Co. 14
Hussong Dyeing Machine Co. .. 215
Hyde, Edward S. 188

India Alkali Works 189
Industrial Tape Mills Co. 188
Innis Speiden & Co. 221
International Cor. Schools 210
International Pulp Co. 206
International Steam Pump Co... —
International Time Recording Co. 29
Ives, L. T., Co. 239

Jamieson, J. B. 194
Jefferson, Edw., & Bro. 194
Jenckes Knitting Mch. Co. 235
Jenckes Spinning Co. 188
Johns-Manville Co., H. W. 39
Johnson, Chas. A., & Co. 214

Kalle Color & Chemical Co., Inc. 218
Keever Starch Co. 202
Kemp, C. M., Manufacturing Co. 38
Kenyon, D. R., & Son 151
Kerwin, Michael 194
Keystone Latch Needle Co. 239
Kissel Motor Car Co. 25
Klauder-Weldon Dyeing Mch. Co. 146
Klipstein, A., & Co. 215
Krout & Fite Mfg. Co. 197
Kunze, Otto 195

Lamb Knitting Machine Co. 224
Lambeth Rope Corporation 187
Lane, W. T., & Bro. 19
Lees, James, & Sons Co. 194

Leffel, James, & Co. 36
Leigh & Butler 6
Leighton Machine Co. 232
Lever, Oswald Co., Inc. 13
Leyland, Thomas, & Co. 17
Lindsay, Hyde & Co. 187
Littauer, Ludwig 201
Little, Arthur D., Inc. 163
Lorimer's, Wm. H., Sons Co. .. 213
Lowell Crayon Co. 188
Lowell Textile School ..... —
Lunkenheimer Co. 27

Macungie Silk Co. 201
Main, Chas. T. 163
Main Belting Co. 161
Malt-Diasease Co. 216
Manufacturers Machine Co. 26
Mason Brush Works ..... —
Mason Machine Works 8
Maurer, F. W., & Sons Co. 188
Merrow Machine Co. 223
Merwin Paper Co. 186
Metallic Drawing Roll Co. 209
Mindlin & Rosenman 199
Mitchell Co., Jas. E. 187
Mohn, Wm. H. 211
Montgomery, J. R., Co. 186
Monument Mills 186
Moore, C., & Co. 187
Morse Chain Company 209
Munn & Co. 163
Myrick, J. W. H. 162

National Credit Co. 191
National Laundry Mchy. Co. 28
National Scale Co. 35
National Silk Dyeing Co. 196
New Bedford Textile School 172
New England Butt Co. 234
New Eng. Tank & Tower Co. .. 222
New Process Gear Corporation.. 23
N. Y. & N. J. Lubricant Co. ... 207
New York Revolving Portable Elevator Co. 39
Nonotuck Silk Co. 186
Norwood Engineering Co. 222
Nye & Tredick Company 229

Orswell Mills 188

Pairpoint Corporation, The 156
Palmer, I. E., Co. 38
Paramount Metal Form Drying Co. 159
Parks, G. M., Co. 10-11
Parks & Woolson Machine Co.. 184a
Paxton & O'Neill 230
Payne, Geo. W., Co. 236
Pearson, Jos. T. 228
Peerless Company, The 214
Perkins, B. F., & Sons, Inc. 34
Permutit Co. 156
Pettes & Randall Co. 195
Philadelphia Drying Mchy. Co.. 16a
Philadelphia Textile Mchy. Co.. 240
Philadelphia Textile School 174
Porter, T. J., & Sons 188
Potter & Johnston ..... —
Powell, Wm., Co. 39
Power Specialty Co. 212

Ramie Agency 188
Reece Button-Hole Machine Co. 231
Reeves Pulley Co. 34
Reliance Machine Works 30-239
Richards, Atkinson & Haserick 174
Richardson Bros. 218
Ridgway, Craig & Son Co. 180
Riley, C. E., Company 145
Roessler & Hasslacher Chemical Co. 180
Rolker F. 201
Root, C. J., Co. 191
Royersford Fndry. & Mch. Co.. 25
Rundle-Spence Mfg. Co. 168
Ryle, William, & Co. 198

Saco-Lowell Shops 5
Saginaw Mfg. Co. 206
Salem Elevator Works 31
Sanitex Co., The 189
Sargent's, C. G., Sons Co. 12
Sauquoit Silk Mfg. Co. 198
Scaife, W. B., & Sons Co. 215
Schaum & Uhlinger, Inc. 35
Schieren, Chas. A., Co. 40
Schofield, William Co. 210
Schwartz, L. H. A., & Co. 33
Scott, Henry L., & Co. 177
Scott & Williams, Inc. 170
Sellers, Wm., & Co. 51
Seydel Manufacturing Co. Outside Back Cover
Shirley, Harold R. 194
Shoemaker, J. L., & Co. 236
S. K. F. Ball Bearing Co. 24
Smith, Alexander, & Son 201
Smith, Drum & Co. 24
Smith & Furbush Mch. Co. 192
Somerville Machine Works 28
Spence & Rideout 238
Spindler, E. O. 230
Stafford Co., The ..... —
Stafford & Holt 233
Standard Fibre Co. 172
Standard Machine Co. 237
Stearns, A. T., Lumber Co. 220
Steel Heddle Mfg. Co. 211
Stein, Hirsch & Co. 218
Stephenson Mfg. Co. 38
Sternberg, Fred, & Co. 187
Street, J. F., & Co. 187
Sturtevant, B. F., & Co. 149
Suter, Alfred 200
Sykes, Walter F., & Co. 218

Taunton-New Bedford Copper Co. 215
Tebbets, E. L., Spool Co. 210
Textile-Finishing Machinery Co. Inside Front Cover
Textile Machine Works 235
Thayer, Edward M., & Co. 218
Thompson, Lindsay, & Co., Ltd. 188
Tolhurst Machine Works 32
Tompkins Bros. Co. 236
Torsion Balance Co. 209

Union Button Sewing Co. 234
Union Special Machine Co. 228
United States Conditioning & Testing Co. 201
U. S. Gutta Percha Paint Co. .. 9
U. S. Hoffman Co. ..... —
Universal Winding Co. Outside Back Cover
Utica Willowvale Bleaching Co. 202

Van Noorden, E., & Co. 212
Villa, A. P., & Bros. 199
Villa, Stearns Co. 197

Walther, Otto 227
Wardwell Needle Co. 239
Watchman's Clock & Supply Co. 174
Weimar Bros. 183
Weinerth Ktg. & Mch. Co., Inc. 238
Westinghouse El. & Mfg. Co. .. 20
Whitinsville Spinning Ring Co.. 36
Whitman, William, Co. 194
Whiton, D. E., Machine Co. 212
Wildman Mfg. Co. 226
Willcox & Gibbs Sewing Machine Co. 238
Wing & Evans, Inc. 219
Wolf, Jacques & Co. 221
Woolford, G., Wood Tank Mfg. Co. 220
Woonsocket Mch. & Press Co... —
Worden Chemical Works 174
Worthington, Henry R. 240
Wrisley, Allen B., Co. 216

This equipment is using exhaust steam at atmospheric pressure

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Saves Labor, Power, Steam and Seconds

Forms Are Made to Suit Your Styles

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For particulars write

The Paramount Metal Form Drying Co.
Beaver Dam, Wis.

Patented Sept. 3, 1912—Oct. 27, 1914. Other patents pending

Publishers' Page

How Is Business?

In the November issue of the Textile World Record under the heading "Looking Ahead" we referred to nine new advertisements starting with the November issue and one advertiser increasing from one-quarter to one full page permanently.

In this issue of the Textile World Record there are nine new advertisements, occupying a total of over five full pages.

From this it would appear that although some concerns, whose supplies are absolutely cut off by the war, may find it necessary to curtail their advertising, there are others who recognize that the times are right to forge ahead.

Roger W. Babson, the eminent commercial statistician, says: "The country is as a whole much better today than it has been for some time. The great crops and the prices they are bringing, investments, politics, the New Federal Reserve Act, and everything that is indicative of business conditions tend to assure us of better times. Until a month ago I was a pessimist on the immediate future of business in America, now I am an optimist. The indications point to the next five years as being a period of unprecedented prosperity in this country."

It is true "that he gets the business who goes after it." And those advertisers already referred to are going after the business with a right spirit and will inevitably get it. To these should be added five aggressive concerns who have already placed their orders for advertising with us to begin with the January issue of the Textile World Record. Three of these will use full pages every month, the others half pages. One old advertiser will increase from one-third to full page space, while another changes from one-quarter to half page every month.

These advertisers recognize the fact that the time to advertise is not only when business is booming and men are buying, but also in advance of that time, so that when the buying is to be done the buyer will know that you are in a position to serve him.

There is one way of making sure that prospective buyers in textile mills will not forget you—one way of keeping them informed on the merits of your product or service and insuring their confidence in the firm behind it—namely—by means of advertising in the Textile World Record, a journal that has the confidence of these buyers and of the vast majority of those that sell to them.

—÷—

A Textile Business Barometer

We have always noticed that the cash subscription receipts to the Textile World Record are a pretty good index of the feeling among the textile mills, both among manufacturers themselves and superintendents and foremen. About 60 per cent. of our subscriptions are in the names of manufacturers and managing officials, about 12 per cent. superintendents, 22 per cent. foremen of departments including master mechanics, 3 per cent. assistant foremen and the balance miscellaneous.

In the dull times of 1893-1896 there was a big drop in cash subscription receipts over preceding years and 1908 reflected the hard year that followed the panic. We therefore think the figures showing subscription cash receipts for the past three months as compared with the same months of 1913 are interesting and significant.

	1913	1914
July	$705.89	$900.46
August	824.77	747.95
September	896.99	902.05
	$2,427.65	$2,550.46
6 months, Jan.—June	6,249.70	6,696.08
9 months, to Oct. 1st	$8,677.35	$9,246.54

July, August and September are the dull months for subscription receipts and August and September were war months. There was a slight drop in August, but September was back again to last year's level and the three months showed a slight increase over

(Continued on page 169)

ANACONDA TEXTILE SPECIAL BELTING

A Practical Demonstration

We have asked many superintendents this question—

"Are your spinning frames running up to speed?"

Always the answer has been, **"Yes."**

If permitted to make the test, our experts have yet failed to show, by sensitive tachometer tests, losses on individual frames running as high as 27% where these same superintendents claimed, and believed, they were getting full production.

In every instance where

Anaconda Textile Special

has replaced the other belting, it has brought these same frames up to standard and kept them there.

When our representative calls, why not let him test your frames merely as a matter of curiosity on your part? Or still better, a postal from you will insure you an early call.

MAIN BELTING COMPANY

12th and Carpenter Streets, PHILADELPHIA

NEW YORK CITY
309 Broadway

BIRMINGHAM, ALA.
22 So. 20th Street

PATENTS

OLD SOUTH BUILDING
BOSTON, MASS.

HEARD, SMITH & TENNANT
NATHAN HEARD LOUIS C. SMITH F. A. TENNANT
Formerly
CROSBY & GREGORY
ESTABLISHED 1854

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W. E. S. DYER
MILL ENGINEER and ARCHITECT

Design, Specifications and Superintendence for Textile Mills, Industrial Plants and Kindred Industries.

Reorganizations, Valuations and Reports on Mill properties. Power Plants of every description and suggestions for their economy of operation.

Land Title Building, - Philadelphia, Pa.

John W. Ferguson Co.
Engineers and Building Contractors
Specialists in Mill, Shop and Industrial Plant Construction
United Bank Building - Paterson, N. J.

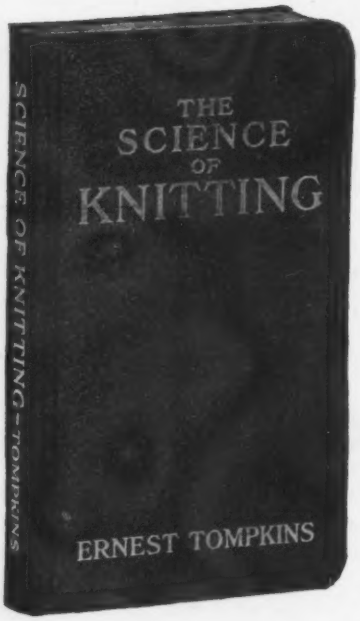
Simplex Yarn Tables.

Showing equivalent sizes of different systems of numbering yarn; cotton, woolen, worsted, etc., so that the sizes of different standards may be quickly compared. Also contains a number of other valuable yarn tables for designers, manufacturers and knitters. PRICE 50c. Textile World Record, Boston.

J. W. H. Myrick, A. S. H. V. E.
Inventor of the
Autoforce Ventilating System
Largest Textile Ventilating Engineers in America
Boston, Mass.

Laboratory Manual of Dyeing and Textile Chemistry—*Matthews.*

The method of presentation and the subject matter are the outcome of a number of years teaching on the part of the author. An elementary manual to be used in conjunction with the more general treatises on the subject. 183 experiments; test questions; 360 pages; cloth. **PRICE $3.50 PREPAID.**
Catalogue of Textile Books sent free.
LORD & NAGLE COMPANY, Textile Publishers, 144 Congress Street, Boston, Mass.



The Science of Knitting

BY
ERNEST TOMPKINS

330 Pages, Illustrated *Price $3.00 Postpaid*

Some of the contents are—

Yarn Numbering and Calculations; Elements of Knitting; Formulas for Ribbed Fabrics; Width of Tubular Goods for Different Numbers of Needles aud Yarns; Width of Fabrics from Different Machines; Production of Circular Knitting Machines; Weight of Goods; Twist in Knit Fabrics; Set; Space Allotment in Knitting Mills; Knitting Machine Gauges; Range of Fabrics from the Same Gauge or Cut; Burs; Spring Needle Latch Wheel Tuck Stitch Figures; Vertical Patterns in Latch Needle Work; Cams; Inserting Needles in Ribber; Take-Up; Locating Source of Trouble in Knitting; Designing with Pattern Wheels; Theory of Knit Fabrics; Ratio and Proportion; Weights and Measures; Mensuration; Miscellaneous Notes on Belting; etc.

In addition there are 60 illustrations and 75 tables of yarns, fabrics, machinery and productions.

The volume is of convenient size, is a model of typographical arrangement, well printed and bound in blue leather with gold lettering.

LORD & NAGLE COMPANY
144 Congress Street, Boston, Mass.

ARTHUR D. LITTLE, Incorporated
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Chemical Division
Design of Special Plants
Reducing Cost of Processes
Control of Supplies
Elimination of Wastes

Engineering Division
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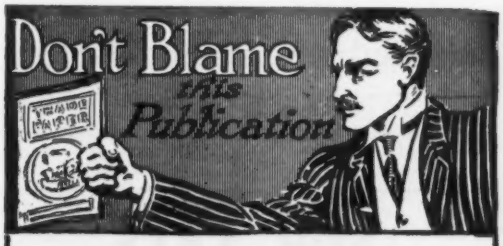
Acceptance Tests on New Apparatus
Remodeling Power Plants
Steam Turbine Installation

93 Broad Street - - - Boston, Mass.



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New Weave Shed, Royal Weaving Co., Pawtucket, R. I.

EXPERT ENGINEERING SERVICE rendered in connection with all industrial engineering problems.

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Mill Engineer and Architect
201 Devonshire St., Boston, Mass.

4-2S

PATENTS

If you have an invention which you wish to patent you can write fully and freely to Munn & Co. for advice in regard to the best way of obtaining protection. Please send sketches or a model of your invention and a description of the device, explaining its operation.

All communications are strictly confidential. Our vast practice, extending over a period of nearly seventy years, enables us in many cases to advise in regard to patentability without any expense to the client. Our Hand-Book on Patents is sent free on request. This explains our methods, terms, etc., in regard to ***Patents, Trade Marks, Copyrights,*** etc.

All patents secured through us are described without cost to the patentee in the *Scientific American*

MUNN & COMPANY, *Solicitors of Patents*
390 Broadway, New York and 625 F St., Washington, D. C.

Money-Saving, Money-Making Opportunities

WANTS, FOR SALE, ETC.

This is a special department for those who wish to buy or sell second-hand machinery, mills or mill sites, patents, etc., and for such advertisements as "Help" or "Situations Wanted." A special low rate is charged, viz., $1.00 for one-half inch, single column; $2.00 for one inch, single column, and in the same proportion for larger space. By measuring these advertisements and counting the words you will see what space is needed for your announcement. No advertisement accepted for less than $1.00. Remittance should accompany the order. No extra charge for forwarding replies sent in care of the Textile World Record.

Address: Want-Ad Dept., Textile World Record, 144 Congress Street, Boston, Mass.

To Woolen Manufacturers

Will pay cash for silk threads, garnetted waste, silk noils, hard twist wool waste, odd lots tender organzine, and spun silk.

I am specializing in Artificial Silk Thread Waste for spinning purposes, etc.

DANIEL J. REILLY, Jr.
P. O. Station "S." 32 Ditmars St., Brooklyn, N. Y.

DIESEL OIL ENGINE

170 hp. direct connected to 120 kw., 250 v. Generator, complete.
75 hp. belted type, complete.
Cheap Power. Sacrifice.
Address Power Equipment Company,
500 Fifth Ave., New York

MILL FOR SALE

A POSITIVE BARGAIN at Salem, N. Y., on the D. & H. Railroad. WATER POWER unexcelled the year round. Fire protection system. Will sell on easy terms to close estate.

J. P. GORMAN
1269 Broadway New York

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LOGS

***of* The Best Quality**

For Bleaching, Dyeing and Printing Rollers. Prompt delivery in any quantity. All consignments made direct from Adirondack Woods. Write for prices.

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HARDING & FANCOURT, Inc.
Kensington Soap Works

Soaps of Quality, Turkey Red Oil, Tuscan Softener
Soluble Oils and Olive Oil

516-18 So. Delaware Ave. PHILADELPHIA

For Sale--Continuous Crabb

Four-bowl, 70″x12″ rolls; 5″ brass rollers in tanks, wooded 3″ cypress; clutch driven; complete with folder and ratchet tension. Perfect condition. **New in April, 1914.** Owners changing to English system. Address "Crabb," Textile World Record, Boston, Mass.

Wanted—Machinist-Knitter

Man possessing thorough knowledge of knitting full fashioned silk hosiery and who can run and fix the full fashioned machines if necessary. Good position for the right man. Address "Machinist Knitter," Textile World Record, Boston, Mass.

FOR SALE

5 Camless Coners

16 spindles each, first-class condition. Suitable for any kind of yarn. Address "Coners," Textile World Record, Boston, Mass.

INQUIRIES FOR MEN

Our Registry Department has calls for men to fill the following positions:

Pin Setters—

Engineers with first-class licences—

Overseer of weaving in a mill making toweling familiar with jacquard, Draper and dobby looms.

Man capable of taking charge of weaving and finishing on Axminster carpets.

Men who understand Alsatian combers in cotton mills.

If you are able to fill any of these positions, it might be to your advantage to communicate with the:—

REGISTRY DEPARTMENT
Textile World Record
144 Congress St., Boston, Mass.

WANTED: POSITION

As Wadding Mill Manager

Any Company thinking about going into the Wadding business will find it of interest to consult me first. I have had fifteen years experience with Independent Wadding Companies in Massachusetts, Rhode Island, Tennessee, Alabama and Georgia. I have all the plans and specifications to start a Wadding Mill from the foundation of the building to the manufacturing of the finished product, and can furnish the very best of references. For further information address, George M. Miller, 616 Smithfield Ave., Saylesville, R.I.

Overseer of Knitting

Would consider good Second Hand or Fixer's position. Have worked on heavy, medium and fine gauge work, men's underwear. Familiar with wool, worsted, cotton and silk yarn systems. Experienced on Cooper's and Crane's Spring Needle Rib Machines; Wildman's, H. B. Brenton's, Scott & Williams' Latch Needle Machines; Tompkins' and Crane's Flat Machines. Cooper's machine preferred 27 years of age, married; good references. Address "Knitting Overseer," Textile World Record, Boston, Mass.

An Economical Seller of Textile Machinery

A Philadelphia textile manufacturer (name on request) bought a textile machine costing about $600.00 and later on decided to sell it. He sent us an order for a 1 inch single column advertisement which ran three times in the Textile World Record at a total cost of $6.00.

When we wrote to find out whether or not he wanted the advertisement run the fourth time he replied as follows:

"Referring to your letter in reference to our advertisement, would say we have sold this machine through the advertisement in your paper."

If you have any second-hand machinery or equipment to sell that can be used in textile mills, perhaps, a 1 inch ad run one or more times on this page would sell it for **you.**

Address "Want Ad Dept."

Textile World Record

144 Congress St., Boston, Mass.

Assistant Designer.

Position as assistant designer wanted by intelligent young man who has received diploma for complete Woolen and Worsted designing course; has good practical knowledge and can furnish good references as to character. Will start very reasonably. Address "A. D." Textile World Record, Boston, Mass.

Assistant Designer Available

Graduate Philadelphia Textile School

Specialized in Dobby and Jacquard designing, would accept position as Assistant Superintendent, capable of doing analytical work, cost finding, systemizing, etc. Experience to be gained considered before salary. Young, single, first class references. Will go anywhere. Address "Assistant," care of Textile World Record, Boston, Mass.

Textile Position Wanted

Protestant American, age 23, good family, best references, wants an opportunity to locate. Salary of secondary importance. Has technical training, practical experience in cotton yarn and thread preparation, carpet weaving, and dyeing. Comes from a family always employed in textile line. Address "American," Textile World Record, Boston, Mass

HELP THE BELGIANS

ANYONE desiring to render immediate assistance to the BELGIAN REFUGEES can do so by sending clothing, express paid, to WILLIAM FIRTH, 15 Columbia St., Boston, and advice of shipment to 200 Devonshire St., Boston.

Parties sending clothing will facilitate the packing and shipments if they will deliver packages marked, A, B and C.

Packages A to contain clothing and material suitable for women's, girls' and children's use.

Packages B to contain clothing and underwear suitable for men and boys.

Packages C to contain nightshirts, outing shirts, blankets, underwear and any garments or material that can be used by the wounded and convalescent soldiers.

Those wishing to send money can do so. The same will be used for the purchase of underwear, etc., in this country, which is at once available for immediate use upon arrival in England or the continent.

Mr. Thomas, agent of the White Star Steamship Company, has kindly volunteered to ship all contributions of clothing free of charge.

Weekly shipments. Goods received on or before Monday shipped by steamer leaving the following Wednesday.

FACTORY LIGHTING by CLEWELL

By Clarence E. Clewell, formerly Lighting Expert, Westinghouse Electric & Manufacturing Co., now of the Electrical Engineering Department, Sheffield Scientific School, Yale University. 160 pages, 6 x 9; 100 illustrations. Published August, 1913. $2.00 (8 x 4) net, postpaid.

Based on wide experience, it gives records to show: What Kind of Lights to Use in Different Rooms—How to Arrange Them—How Many to Install.

It emphasizes the importance of good lighting as a part of the equipment necessary in successful manufacturing.

There has been heretofore no similar book covering the practical questions of factory lighting.

It covers: I. General Items and Requirements. II. Illumination Design. III. Lighting Installation Work. IV. Lighting Maintenance Records. V. Office Lighting. VI. Drafting Room Lighting. VII. Factory Lighting. VIII. Power House Lighting. IX. Iron and Steel Mill Lighting. X. Machine Tool Lighting.

LORD & NAGLE CO., 144 Congress Street, Boston, Mass.

Situations Wanted

Manufacturers who are in need of Superintendents or Overseers for any department of mill work may learn of suitable men upon application by mail or telephone to C. T. DONLEVY, care Textile World Record, 144 Congress Street, Boston., who will give prompt attention to their requirements without charge.

Overseer of Spinning in woolen mill; has worked on carpet yarns, woolen yarn for men's wear and cloakings, all wool and merino yarn for sweater coats and all cotton; familiar with Davis & Furber, Johnson & Bassett, Bancroft and Smith mules; 39 years of age, married; will not go West, South or to Canada; good reference.
6328, Textile World Record, Boston, Mass.

Overseer of Weaving in cotton mill; has worked on plain goods, twills and sateens, from 3s to 110s; familiar with Northrop, Colvin, Whitin and Crompton & Knowles looms; 39 years of age, married; will go to Mass., R. I. and Conn.; good reference.
6329, Textile World Record, Boston, Mass.

Overseer of Carding in woolen mill; has worked on all kinds of goods; familiar with all makes of machinery; 40 years of age, married; will not go to Canada; good reference.
6330, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; has worked on all classes of men's wear, fancy worsteds, piece dyes, all grades of woolens, dress goods, etc.; familiar with Knowles, cam, Crompton & Thayer looms; 41 years of age, married; will not go to Canada; good reference.
6331, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; has worked on woolen and worsted men's wear, broad cloths, kerseys and unions; familiar with Crompton & Knowles, Davis & Furber and Gilbert machines; 44 years of age; prefers New England; good reference.
6332, Textile World Record, Boston, Mass.

Overseer of Cotton Carding; has worked on prints and sheetings; familiar with most makes of English and American machines; 50 years of age, married; good reference.
6333, Textile World Record, Boston, Mass.

Machinist; has had experience in this line; 22 years of age; will not go West, South or to Canada; good reference.
6334, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill or designer; has worked on all kinds of fancy woolens, men's wear and dress goods; also light weight worsted dress goods; familiar with Knowles looms; 48 years of age, married; prefers Mass.; will go anywhere for suitable position; good reference.
6335, Textile World Record, Boston, Mass.

Fixer on Hosiery Machines; would take charge of knitting room; has worked on all kinds of yarns, ribbed goods, hose and half hose; familiar with Banner, Jenckes, George D. Mayo, Model A., Standard, Burson, Creelman, also different makes of ribbers; 30 years of age, married; good reference.
6336, Textile World Record, Boston, Mass.

Machinist on Circular and flat machines; has worked on sweaters; familiar with Stafford & Holt, Leighton and other circular machines; Grosser, C. & F., Lamb and flat machines; 33 years of age; married; will not go to Vt., West, South or to Canada; good reference.
6337, Textile World Record, Boston, Mass.

Knitting Machine Fixer, or second hand; has worked on underwear; all kinds of yarns and garments; familiar with Wildman, Scott & Williams, Stafford & Holt, Snyder & Fisher machines; 30 years of age, married; good reference.
6338, Textile World Record, Boston, Mass.

Assistant Designer, assistant superintendent in woolen mill; has worked on broad cloths, woolens, worsteds, blankets, etc.; familiar with pickers, cards, looms and presses; will not go to Pa., N. Y., N. J., West, South or to Canada; 26 years of age; good reference.
6339, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; has worked on fancy dress goods and fancy worsteds; familiar with Knowles looms; 40 years of age, married; good reference.
6340, Textile World Record, Boston, Mass.

Overseer of Dyeing in cotton mill; would take second hand position; has worked on every class of cotton goods, sateens, burlap, bunting, cotton flannels, denims, ratine, artificial silk, alpaca, mohair and unions; familiar with dyeing, bleaching and finishing machinery; 23 years of age; good reference.
6341, Textile World Record, Boston, Mass.

Assistant Superintendent in cotton mill; would take position doing efficiency work in mill; 25 years of age; will go anywhere for good position; good reference.
6342, Textile World Record, Boston Mass.

Superintendent or designer in woolen mill; has worked on fancy woolens, worsteds, piece dyes, uniform cloths, billiard cloths, flannels, kerseys, cloakings, overcoatings, etc.; 36 years of age, married; will not go South or to Canada; good reference.
6343, Textile World Record, Boston, Mass.

Boss Spinner in woolen mill; has worked on woolen goods, knitting goods, underwear, sweater yarn; union, wool and shoddy yarn, also merino yarn; familiar with Davis & Furber and Johnson & Bassett machines; 27 years of age; will not go South; good reference.
6344, Textile World Record, Boston, Mass.

Superintendent or superintendent and designer in woolen or worsted mill; has had 10 years of experience as overseer and designer; 6 years in a large mill on fancy worsteds and piece dyes, in men's wear and dress goods; good on calculations, organization and system; 40 years of age, married; good references; will not go West or South; will consider anything with definite outlook.
6345, Textile World Record, Boston, Mass.

Overseer of Dyeing in woolen mill; has colored everything in the line of worsted piece dyes, silk effects, raw stock and yarn; 50 years of age, married; familiar with all makes of machinery; good reference.
6346, Textile World Record, Boston, Mass.

Second Hand of Dyeing in woolen mill; has worked on fancy stock dyeing and pieces and indigo stock dyeing and pieces; familiar with machines making knickerbocker stock; Hunt's indigo dyeing machines with hydrosulphite vat; 22 years of age; will not go West, South or to Canada; good reference.
6347, Textile World Record, Boston, Mass.

Manager of an independent wadding company; has had a wide experience in the manufacture of wadding; 45 years of age, married; good reference.
6309, Textile World Record, Boston, Mass.

Superintendent of Woolen or worsted mill; has worked on overcoatings, cheviots, low and high grade cassimeres, skein and piece dye worsteds; familiar with Davis & Furber cards; Johnson & Bassett mules and Crompton & Knowles looms; 50 years of age; married; will not go to Pa., N. Y., N. J., West, South or to Canada; good reference.
6314, Textile World Record, Boston, Mass.

Superintendent or overseer of worsted spinning mill; has worked on botany, cross bred, mohair, alpaca, colored or white and worsted yarns; familiar with open and cone drawing, cap flyer or ring spinning and twisting, reeling, warping, spooling, gassing, yarn finishing and has a good knowledge of combing; 45 years of age; married; good reference.
6315, Textile World Record, Boston, Mass.

Shipper, office clerk or examiner in woolen mill; has worked on fancy woolens and worsteds, fancy dress goods, woolen and worsted piece dyes, serges, beavers, meltons, overcoatings and cloakings; 24 years of age; will not go West or South; good reference.
6316, Textile World Record, Boston, Mass.

Overseer of Woolen Spinning; has worked on everything spun on woolen mules, cotton, shoddy and wool mixes; all wool, all cotton, silk noils, etc.; familiar with D. & F. and J. & B. mules; 39 years of age; married; good reference.
6317, Textile World Record, Boston, Mass.

Overseer of Bleaching, starching or finishing; has worked on quilts, bed spreads, huck towels, Turkish towels, voils and voilettes, flannels, yarns, drills, sateens, sheetings, print and dye goods; familiar with all machines used in bleaching, starching and finishing of cotton goods; 24 years of age; will not go to Vt., or to Canada; good reference.
6318, Textile World Record, Boston, Mass.

Chief Engineer; has had a wide experience in textile mills; 37 years of age; married; will go West and to Massachusetts; good reference.
6319, Textile World Record, Boston, Mass.

Woolen or Worsted Cloth Designer or assistant superintendent; has worked on all classes of men's wear in fancy worsteds and woolens, army cloths and dress goods; 28 years of age; will not go West or South; good reference.
6320, Textile World Record, Boston, Mass.

Agent of Woolen Mill; would consider any executive position in textile mill from designer to agent; has worked principally on worsted men's wear and dress goods, also men's wear woolens; will not go West or to Canada; 38 years of age; married; good reference.
6321, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; has worked on all classes of worsteds and woolens; prefers Knowles looms; 42 years of age; married; will not go to Me., N. H., Vt., Pa., N. Y., N. J., West, South or to Canada; good reference.
6322, Textile World Record, Boston, Mass.

Overseer of Finishing in woolen or worsted mill; has worked on coarse and fine woolens, worsteds, serges, cloakings, overcoatings, broad cloths, men's wear and women's wear fabrics; familiar with all makes of finishing machinery; 50 years of age; will not go West or South; good reference.
6323, Textile World Record, Boston, Mass.

Superintendent of cotton mill or boss carder in large mill; has worked on white, colored, plain and fancy carded and combed yarns and goods; familiar with American and English makes of machinery; 43 years of age; married; will not go South; good reference.
6324, Textile World Record, Boston, Mass.

Second Hand of Dyeing in woolen mill; has worked on ladies' dress goods, all kinds of silk effect piece dyes, serges, chinchillas, cotton cross dyes, raw stock, all kinds of worsted yarn dyes and rain cloth; familiar with Rodney Hunt and Klauder Weldon machines; 23 years of age; married; good reference.
6325, Textile World Record, Boston, Mass.

Overseer of Dyeing in woolen mill; has worked on men's wear, ladies' dress goods, thibets, broad cloths, uniform goods, and balmacaans; familiar with Klauder, Weldon, Delahunty and Gessing yarn machines; 25 years of age; will not go to Pa., N. J., West, South or to Canada; good reference.
6326, Textile World Record, Boston, Mass.

Designer or assistant in worsted mill; has worked on worsteds, piece dyes, naturals, men's wear and dress goods, cotton worsteds, and all the different grades from fine domestic to 1/4 blood, also a little on woolens; 23 years of age; will not go to Pa., N. Y., N. J., West, South or to Canada; good reference.
6327, Textile World Record, Boston, Mass.

Assistant Superintendent in knitting mill; has worked on heavy woolen underwear and half hose, also all kinds of plaited half hose; familiar with all makes of machinery; 25 years of age; good reference.
6306, Textile World Record, Boston, Mass.

Overseer of dressing, winding and spooling in woolen mill; has worked on fancy woolens and worsteds; familiar with Davis & Furber and Cleveland machines; 34 years of age; married; will not go to West, South, or to Canada; good reference.
6307, Textile World Record, Boston, Mass.

Overseer of worsted combing or combing and carding; has worked on fine wools, 1/2 blood Australian; all coarse wools, 1/4 blood and below, foreign or domestic, also well acquainted with fancy mixes; familiar with Taylor, Wadsworth, Prince, Smith, Crompton, Knowles combs and Davis & Furber cards; 35 years of age; married; good reference.
6285, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; has worked on all classes of goods; familiar with Crompton or Knowles looms of different makes; 50 years of age; married; will not go West, South or to Canada; good reference.
6296, Textile World Record, Boston, Mass.

Overseer of Weaving in woolen mill; might consider position as assistant designer or assistant superintendent; has worked on nearly all grades of woolens and worsteds; familiar with Crompton & Knowles looms; will not go West, South or to Canada; 45 years of age; married; good reference.
6297, Textile World Record, Boston, Mass.

Overseer of Weaving; has worked on worsteds; familiar with Crompton & Knowles looms; 41 years of age; married; good reference.
6298, Textile World Record, Boston, Mass.

Superintendent of Woolen Mill; would consider good position as overseer of weaving; has worked on worsteds, woolen and wool and cotton mixed goods; 50 years of age; married; prefers Mass., or N. H.; good reference.
6299, Textile World Record, Boston, Mass.

Overseer of Starching or mercerizing in cotton mill; has worked on percales, cambrics, sleeve linings, silesia, sateens, back filled calico goods, shirtings of all grades; familiar with Butterworth mercerizing frames and other machinery; 42 years of age; married; will not go South or to Canada; good reference.
6300, Textile World Record, Boston, Mass.

Overseer of Dyeing in woolen mill; would consider good second hand position; has worked on ladies' dress goods, overcoatings, chinchillas, broadcloths, meltons, covert cloths, thibets, kerseys, piece dyes of all kinds, in fact all classes of goods; familiar with all makes of dyeing machinery; 24 years of age; will not go West, South or to Canada; good reference.
6301, Textile World Record, Boston, Mass.

Agent or superintendent of cotton mill; has worked on all kinds of cotton flannels and blankets, sheetings, shirtings, colored and fancy goods; 41 years of age; married; good reference.
6302, Textile World Record, Boston, Mass.

Superintendent of a plain cloth mill or yarn mill; has worked on sheetings, drills, ducks, lawns, scrims, voils, etc.; familiar with Saco, Lowell, Whitin, Mason, Fales & Jenks, Draper and other machines; 38 years of age; married; good reference.
6303, Textile World Record, Boston, Mass.

Manager or assistant of cotton mill; would consider position of overseer of dressing, spooling and glacing, etc.; has worked on cotton goods, American, Sea Island and Egyptian yarns; familiar with Universal winding, spooling, polishing and winding machinery; 36 years of age; married; good reference.
6304, Textile World Record, Boston, Mass.

Overseer of Dressing in woolen mill; has worked on all kinds of woolens, cottons, worsteds, wet or dry; familiar with Davis & Furber machines; 32 years of age; married; good reference.
6305, Textile World Record, Boston, Mass.

Overseer of Finishing in woolen mill; has worked on all classes of woolens and worsteds, piece and stock dyes, kerseys, broad cloths, suitings, thibets, meltons, chinchillas, blankets, government cloths, etc.; familiar with all makes of finishing machinery; 25 years of age, married; will not go West, South or to Canada; good reference.
6293, Textile World Record, Boston, Mass.

DYEING MACHINES
Giles
TRADE MARK

If You are Interested in

Machines for
Dyeing or Bleaching Yarns

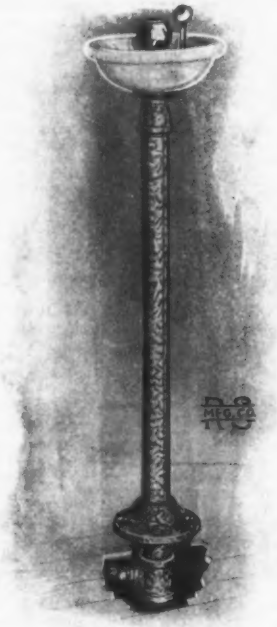
Cotton
Wool
Worsted
Silk
Artificial Silk
Ramie

Write us to send you an estimate of cost of installing an equipment as well as the economies in labor and steam that can be made.

John H. Giles Dyeing Machine Co.

TAUNTON, MASS.

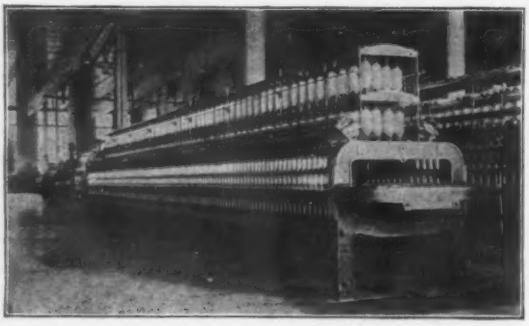
ECONOMY



This is one of our many inexpensive bubblers. Your people are in better condition, when properly refreshed, to give their best effort, so from a selfish as well as from a humanitarian standpoint, they should be furnished with modern, sanitary drinking fountains which will minimize sickness and time spent in using the old methods.

Rundle Spence Mfg. Co.
Milwaukee, Wis., U. S. A.

THE BROWN SPIN-WRIGHT



Commercial Frame

As Operated Successfully in a Large Mill

For Particulars Address

The Brown Spin-Wright Cotton Co.

32 Union Square, New York, N. Y.

(Continued from page 160)

last year. It will be noted that the receipts for the first 9 months to October 1st show a substantial increase in 1914 over 1913. There have been no "boom" methods employed to bring about this result nor any relaxation of our strict requirements for paid in advance renewals nor any unusual inducement offered for subscriptions.

An advertiser to whom we showed these figures a few days ago suggested that the growing appreciation of the Textile World Record might account for it. Whether the cause is a better business sentiment in the textile mill trade than has been admitted generally, or a better Textile World Record, the logical conclusion would be—it is wise to advertise in a journal whose subscription receipts are showing a gain now. Money talks. Mill men pay for the Textile World Record because they want it and that is what makes a good advertising medium.

The present indications are that the quarter ending December 31st will make an equally favorable showing.

Change of Address

Subscribers are requested to notify us in writing before the 5th of the month of any change of address desired, as that is the date on which our mailing lists close for the current month. If we do not receive notice of the change until after the 5th, that month's issue will go to the old address and may require postage for reforwarding.

It sometimes happens that because a news item has been published to the effect that he has moved from one mill to another, a subscriber thinks that his address will be changed automatically without any instructions from him and he will sometimes write to the effect that we knew he had moved because we had published an item about it and he does not see why his magazine was not sent to his new address. He forgets that the subscription department is entirely separate from the news department and has over 6,000 names to look after and can hardly be expected to search the news columns for possible changes of address, and even if it did, it would not be proper to make changes unless ordered or authorized by the subscriber.

Please, therefore, be considerate, for your own sake as well as ours, and advise us promptly and definitely when changing your address. It helps us very much if your old address is given, as well as your new address stated clearly.

Textile Mill Construction

Since January 1, 1914, the Textile Advance News has reported on 279 mills, projected or under construction, and over 1,200 important changes, enlargements and improvements.

In the last four issues there were over 480 items of special interest to those selling machinery, equipment, and supplies to textile mills.

Incidentally these figures show there is "something doing" in the textile industry at this time. See the Report of New Mill Construction in this issue.

Your advertisement in the Textile World Record helps you to get the confidence of the textile mill men who subscribe for it and a close watch of the Textile Advance News will give you early information as to when and what they want to buy.

Therefore watch the Textile Advance News closely to get the full benefit of the matter it contains.

Attend to Business

"The people should remember that every dollar that this country had a year ago and seven years ago it has today. We have not been drained of our resources. Our factories have not been burned down, our young men are not being killed in tens of thousands; we have not lost thousands of millions in trade, but on the contrary shall gain trade; our farms are not desolate; our schools not closed.

"All that we need is to attend to business, produce, sell, buy of each other."

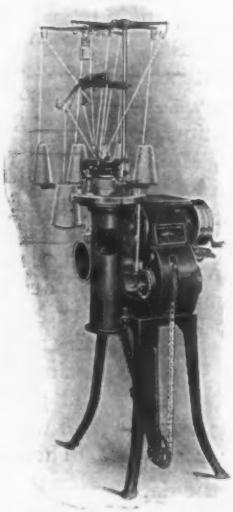
Monthly Circulation Statement

Of this edition over 6,200 copies are printed and all are needed.

The Textile World Record is a Member of the Audit Bureau of Circulations.

Here's the Machine that Saves 7 to 15 Cents a Dozen

On the Manufacturing Cost of Half Hose



IMPROVED MODEL F MACHINE

Is there an abundance of skilled labor for topping in your locality? If so, you are fortunate.

If not, you should **investigate our Model F Machine,** which produces half hose **without skilled labor** at a saving of from 7 to 15 cents per dozen, and makes women's stockings with a knitted turned welt, dropping both from the machine.

Established 1865

SCOTT & WILLIAMS, INC.

88 PEARL STREET
BOSTON

NEW YORK UTICA

KNIT.

.....

Wisconsin, La Crosse. A decision has not been reached as yet by the La Crosse Hammock Works in the matter of establishing a knitting department. They are looking for information on knitted goods manufacturing and if the prospect is satisfactory they expect to go into the knitting business. At present hammocks are manufactured and a specialty is made of leno weaving. L. E. May, Sr., is president and superintendent, and M. Guenther is treasurer. Ten looms are operated by electric power. The plant is located at 2023 West Ave., S.

.....

Enlargements and Improvements.

Maryland, Frostburg. Increases recently made in the local plant of the Parker Hosiery Mill & Dye Works bring the equipment up to 60 knitting machines, 63 ribbers, and 25 loopers. The main plant and office is at Portsmouth, Va.

*Maryland, Hagerstown. The new plant of the Antietam Knitting Co., constructed to replace the plant destroyed by fire several months ago, has been completed and machinery is being installed which will give an increase in production of 30 to 50 per cent. The new mill is 3 stories high, 50 by 120 feet. Hosiery is manufactured.

New York, Amsterdam. Eighteen new knitting machines are being installed in the plant of the Blood Knitting Company to manufacture a line of men's balbriggan underwear in addition to the concern's other lines. Recently a number of combers were installed in the spinning department and combed yarns are now being made in addition to carded yarns. It is expected that a further installation of machinery will be made for the new line within a short period.

North Carolina, Durham. The equipment of the Durham Hosiery Mills, No. 2, has been increased to 244 latch needle knitting machines and 36 ribbers. Cotton half hose is manufactured.

North Carolina, Raleigh. Seven machines have been added to the equipment of the Watkins Hosiery Company on Belmont St., and the plant now contains 21 knitting machines, 5 ribbers and 3 loopers.

Pennsylvania, Greencastle. Fifty additional knitting machines have been put in the local plant of the Windsor Knitting Mills. They are not doing anything at Hagerstown, Md., where the main plant was recently burned with loss of approximately $100,000.

Pennsylvania, Philadelphia. The Beattie Hosiery Co., 4328-30 Trenton Ave., Frankford, who have been making a line of women's seamless hosiery and stocking feet, have recently added a line of half hose. They are operating 90 knitters and 13 loopers and report that they are arranging to go on a night schedule in an effort to fill their orders. They are very busy, selling direct.

Pennsylvania, Philadelphia. The Heather Knitting Mills, with a capital of $10,000, George Conn, president, superintendent and buyer, P. S. Wooden, treasurer, and John G. Campbell, secretary, have succeeded the Wissinoming Knitting Mills located at 5629 Edmund St., Wissinoming. The plant, which now contains 2 flat knitters, 4 round frames and 12 sewing machines, also 5 sweater machines, is operated by electric power on sweater coats, horse bandages, ladies' skirts and silk scarfs and in order to complete the many orders on hand at the present time it is their intention to materially increase this equipment and enlarge their production.

Pennsylvania, Reading. E. R. Ammon, manufacturing women's 220-needle cotton hosiery on 20 knitting machines at 17 S. Front St., is reported as having installed an equipment for dyeing his own production as well as a bleaching department which is now in operation.

Pennsylvania, Reading. The Glasser Hosiery Co., Inc., has purchased in the neighborhood of 100 machines from George D. Horst. George D. Horst is treasurer of Nolde & Horst Company, hosiery manufacturers.

Pennsylvania, Richland. The Richland Hosiery Mill, A. C. Haak, proprietor, is being increased by the erection of a new 2-story addition. New equipment for knitting, dyeing and finishing is to be installed.

.....

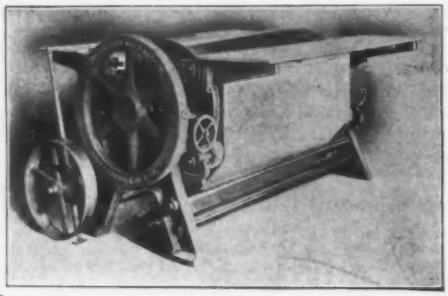
Mills Starting Up.

Canada, Ontario, Brantford. Manufacturing has been started in the branch plant of the Niagara Silk Mills. A 3-story mill, 165 by 52 feet, has been erected and equipped to manufacture silk underwear, gloves and hosiery. The plant is operated under the name of the Niagara Silk Mills, Ltd,. and is a branch of the Niagara Silk Mills of North Tonawanda, N. Y., manufacturers of the "Niagara Maid" brand of goods.

New York, Troy. A part of the plant of the Troy Knitting Company has been reopened after being closed since July. No war orders have been received according to the management, but there are enough regular orders on hand to keep the plant running for some time.

*Pennsylvania, Boyertown. Manufacturing has been started in the new No. 2 Mill of the Allen Knitting Mills Company with 30 knitting machines in operation. No. 1 Mill is at 11th and Westmoreland Streets, Philadelphia, where all buying is done. Ladies' union suits and vests are produced.

Pennsylvania, Philadelphia. Confirming a report recently made by us that the Excelsior Underwear Co., whose plant was recently sold out by the receiver, had been taken over by other parties who would start it up again, we can now say that the new owners are F. Somers, Charles Beury, Jr. and M. Barth. They will incorporate the business under another name, possibly the Wakefield Knitting Mills, with the probable officers being F. Somers, president; Chas. Beury, Jr., treasurer; M. Barth, secretary and H. S. Townsend, manager. It is also their intention, a matter which is now receiving consideration, of increasing the equipment of the plant for the purpose of enlarging its production. Ladies' cotton ribbed underwear is manufactured on 33 knitters and 53 sewing machines. They are located at 5155 Wakefield St., Germantown.



You know that the greatest factor in earning power is a capacity that reduces the cost of production. Therefore we want you to know that

THE J. W. CRAW PRESS

excels all others in capacity.

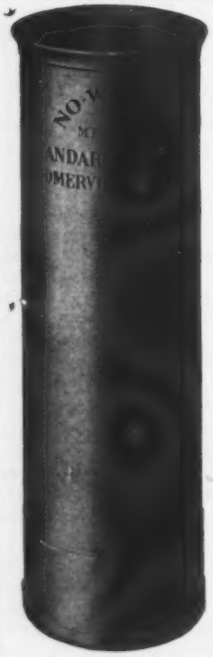
Capacity and Finish

With two girl operators its record capacity is pressing six hundred dozen garments per day without breaking a button. With only one operator it is three hundred dozen per day.

The appearance of the garment when pressed on it is very attractive; the finish cannot be excelled; many mills say it cannot be equalled by any press or method of pressing.

Sizes to meet your requirements. Terms to suit your convenience. Write us for prices and terms.

The J. W. Craw Machinery Co., South Norwalk, Conn.



THE

"No-Waste"

Seamless Hard Fibre Roving Can

It does not have the riveted seam that strains and breaks the sliver

NO SEAMS OR RIVETS

ABSOLUTELY SMOOTH

Also

Fibre and Steel Clad Cars
Doffing Trucks
and
Mill Boxes All Kinds

Sheet Fibre Tubes
Rods
Special Shapes

Standard Fibre Co.

25 Miller Street, Somerville, Mass.

New Bedford Textile School

This school is located in New Bedford, Mass., a rapidly growing city and already the largest producer of fine cotton goods in this country.

Instruction given in the theory and art of cotton manufacture in all its branches.

The school has one hundred ten machines for instruction purposes in carding, spinning and weaving departments; seventy in knitting department, the most complete department of the kind in equipment and scope of instruction in this country; twenty-seven machines in machine shop; thoroughly equipped departments in chemistry and dyeing, in designing, and mechanics.

Every instructor a man of broad experience and training.

Fourteenth year. Many graduates filling positions of trust and responsibility. Catalogue sent free on application. Address,

William E. Hatch, Pres., New Bedford, Mass.

IDA M. TARBELL SAYS:—

"It has been estimated that 250,000 industrial plants is this country having an annual output of $20,000,000,000 could save $400,000,000 by *efficient light*."

(Quoted from "Our New Work Shops," American Magazine, Nov., 1914.)

You Can Reduce Your Share of This Loss By Investigating "Anti-Pluvius" Puttyless Skylights

THE G. DROUVÉ CO., Bridgeport, Conn.

FACTS AND GOSSIP.

Massachusetts, North Adams. Forty looms have been started up nights by the North Adams Mfg. Company in an effort to turn out a larger quantity of the rush orders recently received.

*Massachusetts, North Adams. Nothing definite has been done toward construction of the large new power house for the Hoosac Cotton Mills announced several weeks ago as one of the developments in view by this concern.

Massachusetts, Pittsfield. Some of the local woolen mills are working overtime on large orders for blankets for the allied armies. It is reported that further orders for uniform cloths have also been received.

Massachusetts, Salem. Parker, Wilder & Co., selling agents for the Naumkeag Steam Cotton Company, whose plant is now being rebuilt, have announced that the progress being made on the new weave shed allows them to take orders on "Pequot" sheets and other goods for delivery during January, February and March.

Massachusetts, Taunton. It is reported that the Nemasket Mills of the New England Cotton Yarn Company have received a large order from the Brighton Mills at Passaic, N. J., for yarns to be used in the manufacture of tire fabrics.

Massachusetts, Westfield. The Textile Mfg. Company, whose organization is currently reported, is not a textile manufacturing concern as we pointed out previously. The company manufactures hardware.

Massachusetts, West Millbury. Arthur D. Windle, proprietor of the Millbury Scouring Co., formerly known as the Manufacturers' Wool Stock Company, may remove from West Millbury owing to the agitation against discharging waste liquor into the Ramshorn Stream. Mr. Windle is understood to be considering moving the plant to Boston if he is prevented from using the Ramshorn Stream.

Michigan, Detroit. C. J. Hayden, president of the Atlanta, Ga., Chamber of Commerce, is scheduled to speak in Detroit in favor of establishing a cotton mill here. Mr. Hayden will address the Board of Commerce.

Mississippi, Meridian. It is reported the Lauderdale Cotton Mills have received a large order for heavy cotton cloth to be shipped to South America. 12,000 spindles and 400 looms are operated.

New Hampshire, Tilton. A day and night schedule has been put in force in the weaving department of A. D. Carter.

*New Hampshire, West Swanzey. Manufacturing has been resumed in the plant of the Homestead Woolen Mills, H. W. Brown, proprietor and buyer. The plant was shut down for five days for the annual repairs before winter, but is now running again on full time.

New Jersey, Dunellen. A concern known as Van Blaricon & Company, drapery manufacturers, has begun manufacturing here with 25 operatives in a building at Washington and North Aves.

New Jersey, Paterson. The Diamond Silk Company is moving from the Hall Mill to the addition lately built to the S. J. Arohnson Mill.

*New Jersey, Paterson. The Hewitt-White Co., whose organization was reported several weeks ago, succeeds Charles Hewitt, a braid manufacturer in the Essex Mill. Silk and cotton braids, shoe laces, corset laces and ribbons are being manufactured. Benjamin F. White has been elected president, and Charles Hewitt, treasurer and buyer.

New Jersey, Paterson. Paterson and Passaic manufacturers who use chemicals and dyestuffs may be compelled to install plants for purifying waste liquors before discharging them into the river. The Sewage Commission has decided that waste liquors must be brought up to 90 per cent. purified state before they can be disposed of in the river.

New Jersey, Paterson. An increase has been made in the capital stock of the Wechsler-Barber Silk Co., from $40,000 to $100,000 for the purpose of making extensions. Broad silks are manufactured on present equipment of 40 looms. Ernest Barber is president, superintendent and buyer.

New Jersey, Paterson. A certificate of incorporation of the J. E. Barbour Company has been filed. The concern is capitalized at $500,000. The incorporators are John Edwards Barbour, John McFerran, Robert Crothers, and Frank Hall. J. E. Barbour operates the Lakeview Mills at Lakeview, manufacturers of linen threads of all descriptions and linen yarn.

New Jersey, Paterson. John Hand & Sons, Inc. deny the reports that they will increase, which have been circulated in some quarters.

New Jersey, Trenton. Bids are being asked on plans for a new factory building to be erected for the Globe Rubber Co., to be two stories high, 72 by 59 feet, and cost about $15,000.

*New Jersey, Vineland. Arrangements have not been made as yet by the Industrial Committee of the Commercial League for building a new mill for two Philadelphia concerns who desire to move here if suitable quarters are provided. H. M. Spamer, of the Commercial League, states that one of the concerns manufactures carpets and rugs and the other makes bed spreads and blankets and that both are located in Philadelphia. Further information cannot be obtained until the negotiations are completed.

New York, Albany. The Frank B. Graves Company, manufacturers of and dealers in waste and shoddy, are turning out about 50,000 pounds of absorbent cotton a week.

*New York, Brooklyn. It has been decided to hold up temporarily the organization of the proposed Sanitary Cotton Products Corp. It was proposed to establish an absorbent cotton plant in the Bush Terminal Bldgs.

New York, Islip. A meeting of local business mn has been held to further the organization of a cotton mill company with capital stock of $100,000. W. L. Walthour of New York outlined the project.

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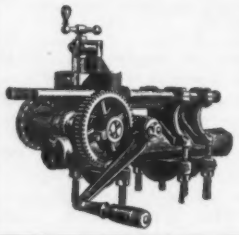

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Absolutely Waterproof

For use in Dye Houses, Bleacheries, Wool Scouring Houses, Chemical Factories and wherever it is hard on ordinary shoes, or an absolutely waterproof shoe is desired

Send for price list or sample pair

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For Perfect and Economical Results in Speck Dyeing Worsted Piece Goods, use
CRYSTAL SPECK DYE
Covers all vegetable and other specks.
Does not stain white silk threads in goods.
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In one volume are given outlines of woolen yarn manufacture, worsted yarn manufacture, on both English and French systems, weaving and finishing. There are numerous useful calculations, tables, recipes and notes. Brought up to date annually. 600 pages; green flexible leather. **Price, $1.00.**

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CHAFFEE BROTHERS COMPANY,
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BOX SHOOKS and CLOTH BOARDS.

Clean
LIGHT
Strong

(Continued from page 135)

About 60 per cent. of the light emitted from the lamp is given off by the green and yellowish green lines. The most powerful of these is situated at 540 which is very close to the line of maximum visible sensibility 545, while a second is at 579 which is extremely close to this line. The preponderance of these rays account to a great extent to the high efficiency of the mercury vapor lamp. On the other hand, as the light is confined mostly to these green bands the light is of a greenish hue, or is practically monochromatic, that is, a light of one color. Due to this quality, an extremely important feature of the lamp results, which is known as "visual acuity." By visual acuity is meant the sharpness of vision, and it results from the fact that under an ordinary lamp containing all colors of the spectrum, the attempts to focus for all the colors, and as they are all of different wave lengths, those of the shorter wave lengths are brought to focus by the eye at a different point than those of the longest wave lengths. While this difference is extremely small, however, it causes a slight blurring of the image and the vision is not sharp. By using a monochromatic light, or one nearly monochromatic, the eye simply focuses for this one color and the rays are brought to one point with great distinctiveness, insuring extreme sharpness of vision.

The Cooper Hewitt lamp with this quality has the appearance of practically magnifying extremely small objects, from 1 1/2 to 2 times. This is particularly valuable in textile mill work, when it is necessary to see small threads of almost infinitesimal diameter, and it is for this special quality that the lamp has been used to such an extent in mill work.

While the color of the fabrics may not look natural under this light, still the fact that each and every thread stands out clearly and distinctly makes it particularly desirable to the operator, whose chief function is to find and repair broken threads.

The value of this feature cannot better be illustrated than by a practical example of what this means to a certain mill which is making fabric at $3.00 per yard.

During the artificial lighting period of the year which is probably one-tenth of the total working period, the production from one loom would be about $750. In this case, four looms are lighted by one Cooper Hewitt lamp, so as to obtain efficient light to see the minutest detail. The cost per loom per year for lighting is $2.05 which includes interest charges and depreciation charge on the investment, as well as the current cost and the cost of maintenance. Reducing this figure it is seen that each loom produces $.04 worth of goods per minute with a cost for lighting of $.00011. It is easily seen that every minute saved by proper lighting more than offsets the costs.

Another decided advantage of this "acuity value" is in the inspection of goods, as every piece caught in the early stages of manufacture will save labor and power expenses, if it is known that it is defective and can then be thrown out.

As was shown in the first part of this paper, the eye is able to see better with a small amount of green light than with any other one color, therefore when shadows are cast by Cooper Hewitt lamps they are less dense than by lights of another color, and perception is easier even under these conditions.

From an economical standpoint, the Cooper Hewitt lamp is probably the cheapest illuminant for mill use. On account of its high efficiency, the current cost is extremely low and due to the long life of the tubes, the main maintenance charge is a very reasonable item. The first cost is higher than with most other units, but as this is a capital charge, the same as the buying of a loom, the interest and depreciation charges should only be considered.

With the Cooper Hewitt system of illumination the problem of producing a flat production curve can be realized throughout the entire working period, goods produced under this system being equal in quantity and quality to that produced under maximum daylight.

TEXTILE BOOKS

THE following list contains the titles of some of the textile books which we recommend. We carry these in stock for prompt delivery. Our full descriptive catalog, giving lists of practically all textile books published in the English language, with a brief synopsis of contents, will be mailed free.

General Subjects

Advanced Textile Design, *Watson*	$4 00
Analysis of Woven Fabrics, *Barker and Midgley*	3 00
Art of Soap Making, *Watt*	3 00
Calculations in Yarns and Fabrics, *Bradbury*	1 25
Carpet Manufacture, *Bradbury*	3 00
Color in Woven Design, *Beaumont*	6 00
Drying by Means of Air and Steam, *Hausbrand*	2 00
Flax, Hemp and Jute Spinning and Twisting, *Carter*	3 00
Improved Slide Rule, *Hogg*	3 50
Introduction to Study of Textile Design, *Barker*	2 50
Jacquard Weaving and Designing, *Bell*	4 00
Manual of Weave Construction, *Kastanek*	1 00
Preliminary Operations of Weaving, *Nesbitt*	2 50
Science of Knitting, *Tompkins*	3 00
Silk Throwing and Waste Silk Spinning, *Rayner*	2 50
Simplex Tables	50
Spinning and Twisting of Long Vegetable Fibres, *Carter*	5 00
Story of Textiles, *Walton*	3 25
Technical Testing of Yarns and Fabrics, *Herzfeld*	3 50
Textile Design, *Woodhouse and Milne*	3 25
Textile Design, *Umpleby*	2 25
Textile Design and Color, *Watson*	2 50
Textile Fibres, *Matthews*	4 00
Textile Soaps and Oils, *Hurst*	3 00
Textiles, *Barker*	2 00
Warp Preparation and Weaving, *Nelson*	2 25
Waterproofing of Fabrics, *Mierzinski*	2 50
Weaving, Plain and Fancy, *Nelson*	1 25

Cotton Manufacture

Carding and Spinning, *Ivey*	$1 00
Chemistry of Tape Sizing, *Cooper*	1 50
Cotton Carding, *Lindsay*	50
Cotton Cloth Designing, *Holmes*	2 00
Cotton Combing Machines, *Thornley*	3 00
Cotton Manual, *Broadbent*	75
Cotton Mill Machinery and Calculations, *Parker*	1 50
Cotton Spinning, *Hedrick*	3 00
Cotton Spinning (3 vols.), *Taggart*	7 50
Cotton Spinning (3 vols.), *Thornley*	6 50
Cotton Waste, *Thornley*	3 00
Humidity in Cotton Spinning, *Dobson*	1 50
Loomfixing and Weaving, *Ivey*	1 25
Mule Spinning, *Thornley*	3 00
Plain Series of Cotton Spinning Calculations, *Cook*	1 00
Practical Cotton Calculations, *Whitworth*	1 00
Structure of the Cotton Fibre, *Bowman*	3 00
Students' Cotton Spinning, *Nasmith*	3 00

Woolen and Worsted Manufacture

Cone Drawing, *Buckley*	$ 50
Faults in the Manufacture of Woolen Goods and their Prevention, *Reiser*	2 50
Finishing of Textile Fabrics, *Beaumont*	4 00
How to Make a Woolen Mill Pay, *Mackie*	2 00
Manual of Cloth Finishing	6 50
Practice in Finishing Woolens and Worsteds, *Greene*	50
Principles of Wool Combing, *Priestman*	1 50
Principles of Woolen Spinning, *Priestman*	2 50
Principles of Worsted Spinning, *Priestman*	2 50
Structure of the Wool Fibre, *Bowman*	3 00
Wool Carding and Combing, *Barker and Priestly*	1 50
Woolen and Worsted Loomfixing, *Ainley*	1 00
Woolen and Worsted Finishing, *Tymmerman*	2 25
Worsted Overlooker's Handbook, *Buckley*	50
Worsted Preparing and Spinning, (2 vols.), *Bradbury and Buckley*	3 00

Bleaching, Dyeing, Printing, Finishing, Etc.

Aniline Black, *Noelting and Lehne*	$5 00
Bleaching and Dyeing of Vegetable Fibrous Materials, *Hubner*	5 00
Bleaching of Linen and Cotton Yarn and Fabrics, *Tailfer*	5 00
Chemistry and Practice of Finishing (2 vols.), *Bean and McCleary*	15 00
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KNIT.

.....

New Mills.

*Georgia, Gainesville. In about 30 days plans will be ready for the plant to be erected by the new Gainesville Hosiery Mills and will call for a main building, 150 by 50 feet, a separate dye house, engine and boiler room and storage house, all of brick. It is planned to manufacture men's half hose and ladies' fine hosiery on equipment of 100 knitting machines with steam and electric power plant. This company was organized by Archibald Coats Meldrum and associates and has authorized capital stock of $200,000. Mr. Meldrum is president; T. J. Horton, vice-president; Henry A. Malcolm, secretary, and J. H. Reynolds, treasurer. The product will be sold direct. The company is preparing its own plans and specifications and has not as yet awarded any contracts.

*Kentucky, Lookout. John D. Coleman, recently reported interested in a hosiery mill project, will start on a small scale and increase as the growth of the business warrants. Initial equipment has been purchased which will give a capacity of 50 pairs daily of hosiery and gloves.

North Carolina, Charlotte. It is reported that a concern known as the Defiance Sock Mill has established a plant in the building of the Charlotte Trousers Company, for the manufacture of half hose for men. Morehead Jones, of Charlotte, and Kenneth Tanner, of Caroleen, own the new company.

*Rhode Island, Thornton. The National Silk Hosiery Company, a project that William Burton, town treasurer of Johnston, has been organizing for two or three years, has leased the upper floor of the old Brown mill on Plainfield St. and is equipping it for the manufacture of knitted silk neckties. William Newton will act as president and superintendent, and Mr. Burton will be treasurer and general manager.

Enlargements and Improvements.

Canada, Quebec, Montreal. The Regent Knitting Mills, Ltd., 18A Pine Ave., will install some new knitting machines for manufacturing sweater coats.

*Georgia, Grantville. The addition to the plant of the Grantville Hosiery Mills, 220 feet long by 100 feet wide, has been completed and 5,000 spindles will now be installed, doubling the yarn capacity.

Indiana, Fort Wayne. New bleaching equipment is being installed by the Wayne Knitting Mills, Inc., taking the place of old equipment. The new equipment will increase the output of this department which has been made necessary by the increase in the demand for white socks during the last few months.

Indiana, Fort Wayne. Thieme Bros. Co., manufacturers of men's and women's full fashioned silk hosiery, are equipping a machine shop. Machine repair work for the plant has been done by the Wayne Knitting Mills heretofore. A number of machines are being set up.

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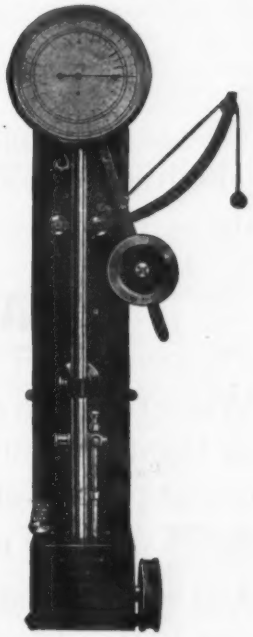
POWER YARN TESTER
PATENTED



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Now and Always

You can protect your profits and actually increase your production by intelligent use of the accurate records obtainable,

If You Use Durant Counters

for counting, and for measuring the product of your mill. They are mechanically correct. Infallible in their counting. *They point the way to economy—and pay their own way too.*

30 Different Styles—30 Days Trial. Write for Catalog 20

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Charles Hammer, 280 West Broadway, New York City

1914-1915

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Season's Greetings

While there are many many things for which we are all thankful, not the least of these to us is the appreciation we feel for the patronage you have given the Wyandotte products.

And with equal sincerity we covenant with you, that in the coming year as in the years that are past we will do everything within our power to so make these goods that they will continue the confidence you have so cheerfully and bountifully entrusted to us.

That your Christmas may be A Merry One, and that the first and each succeeding day of the New Year may be a Happy One, is the sincere wish we have for all.

The J. B. Ford Co., Wyandotte, Mich., U. S. A.

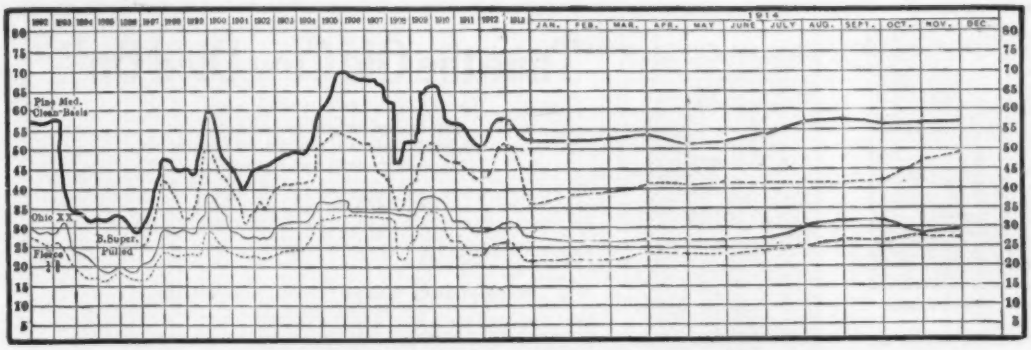

CHART SHOWING RANGES IN THE PRICE OF WOOL TO DATE.

THE WOOL MARKET

The embargo on British exports of wool to non-British territory dominates the wool market throughout the world and has had a particularly demoralizing effect on the trade in the United States. Many holders of wool have withdrawn their stocks from the market for the purpose of waiting for higher prices which they believe are certain to result from a continuance of the embargo. The risk of this kind of speculation arises from the possibility that the embargo may be lifted any day without warning, which would certainly cause a decided shrinkage of American values. The owners of wool who have been willing to accept the present high prices have transacted a considerable volume of business with manufacturers who have been forced to replenish stocks in order to fill orders for goods. The wool goods market is in a very unsatisfactory condition, cancellations have been numerous and have covered a large quantity of goods. The reports regarding the contracts for army goods have been greatly exaggerated. The contracts actually placed have been for nearby delivery and a number of the mills that received such orders were able to fill them in a few weeks. The foot and mouth embargo has been another unfavorable influence which, however, is likely to be removed from the market in the near future.

WOOLEN.

New Mills.

*Canada, Ontario, Arnprior. Three sets of cards and three mules with looms and finishing machinery for the manufacture of felts for paper and pulp mills, are being installed in the plant of the Arnprior Felt Company, Ltd., and manufacturing will be started by January 1. A temporary plant has been operated by this concern at Galetta. J. T. Griffith is manager.

Pennsylvania, Philadelphia. A portion of the Lomax Mills at Jasper and Orleans Sts. has been leased by Dyson Bros. who have installed about 10 looms recently purchased by them and on which they will manufacture worsted goods on commission.

Enlargements and Improvements.

Massachusetts, Millbury. A carbonizing department is to be equipped by the Mayo Woolen Company in an out-building at Mill No. 4, which is being enlarged for the purpose. Recently 12 old looms were replaced by looms of a later type.

TETRAZO COLORS
FOR COTTON

We offer these products in all shades for the dyeing of cotton in any form.
Among them will be found colors specially adapted to meet the various requirements of fastness to light, washing, cross dyeing and fulling.
Shade cards and samples, with full information, cheerfully furnished on application.

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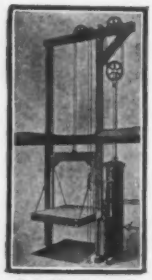
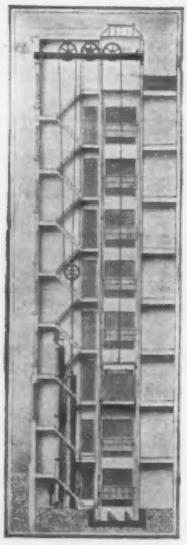


Double Geared



Steam Hydraulic Elevator in a Great Soap Factory in Jersey City

"Tune the Old Cow Died On"

There was a man who had a cow
And he had naught to give her,
So he took his pipe and played her a tune,
"Consider, good cow, consider."

We rather expect that just now for the first time in your life, you know what was "The tune the old cow died on."

Yet you have been telling folks all these years when you whistled that it was "the tune the old cow died on."

And when the Squedunk Sheet Iron Band struck up, you said they were playing "the tune the old cow died on."

"Consider, Good Cow, Consider."

That was the tune. Of course the old cow died.

Cows as well as humans must have HAY, BRAN and PASTURE.

And many a "Piper" is playing this same empty tune to his "Old Cow" of a business.

You have milked the business so long with no provender for the manger that the poor old business is dying of Peter-out.

Not an improvement in ten years.

"Yes, Mr. Ridgway, we know we ought to have decent elevators and we know yours is about the best, but we will have to take the matter UNDER CONSIDERATION."

The tune the old cow died on.

"Consider, Good Cow, Consider."

So, old fellow, come up out of the Primary Grade and over in the High School Class where all the big fellows

"Hook 'er to the Biler."

CRAIG RIDGWAY & SON CO., Coatesville, Pa.

Elevator Makers to Folks Who Know. 37

BLEACHERS!

Have you applied for--

Our "Free Correspondence Course on Peroxide Bleaching"?

This will be illustrated by bleached results on the goods you are now working, or on any goods you may want to take up.

It is immaterial what the goods are; they can all be Peroxide-bleached to great advantage and at the right cost.

THE ROESSLER & HASSLACHER CHEMICAL CO.

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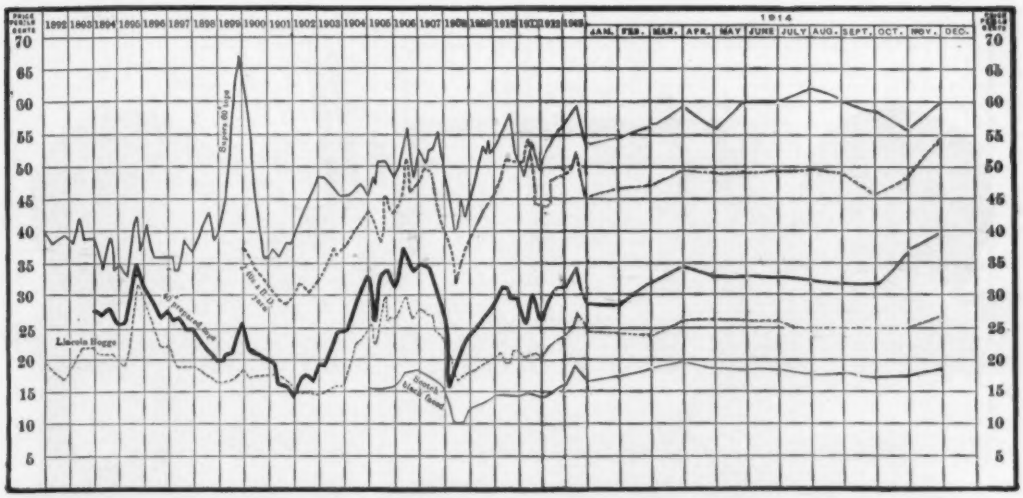


CHART SHOWING COURSE OF PRICES FOR WOOL, TOPS, AND WORSTED YARN AT BRADFORD, ENGLAND

THE BRADFORD MARKET

Bradford, Eng., Nov. 27, 1914.

Bradford is a better market to sell in than it was a month ago and profits of six cents a pound or so have been taken by holders of crossbred and English woods. The supply of army wools is short, the demand is furious and delays in the arrival of the new clip are regarded as inevitable. The effect has been to put a liberal premium upon all wools available upon the spot and present prices are three to four cents higher than those accepted for the spring delivery of limited quantities of tops.

Merino is being used in the hosiery, gabardine and dress goods trade, but very little is being taken by the coating branch, one of the most important consumers. However, the demand is large compared with the supply in the artificial situation existing and the decline at the Australian auctions are beside the point for the time being.

All other home wools having moved up, attention is at last being bestowed on Scotch blackfaced, which is being bought for an anticipated rise. The prices of materials show no regard to the feelings of buyers for the private trade, whose operations have not been on a large scale. The knowledge that manufactured stocks have been undergoing a heavy reduction encourages the belief that large orders will come in later on, perhaps when wool prices have eased a little. No great reduction in the latter is anticipated, but the combination of lower prices for wool coupled with high prices for goods looks attractive in the distance.

Bradford began with the belief that it was the most abused city in the country when the war opened. It was carried away by fears at the thought of putting wool up to auction in London. It has lived to see quotations mounting week by week, as the consequence almost solely of military demands.

WOOLEN MILL NEWS

Enlargements and Improvements.

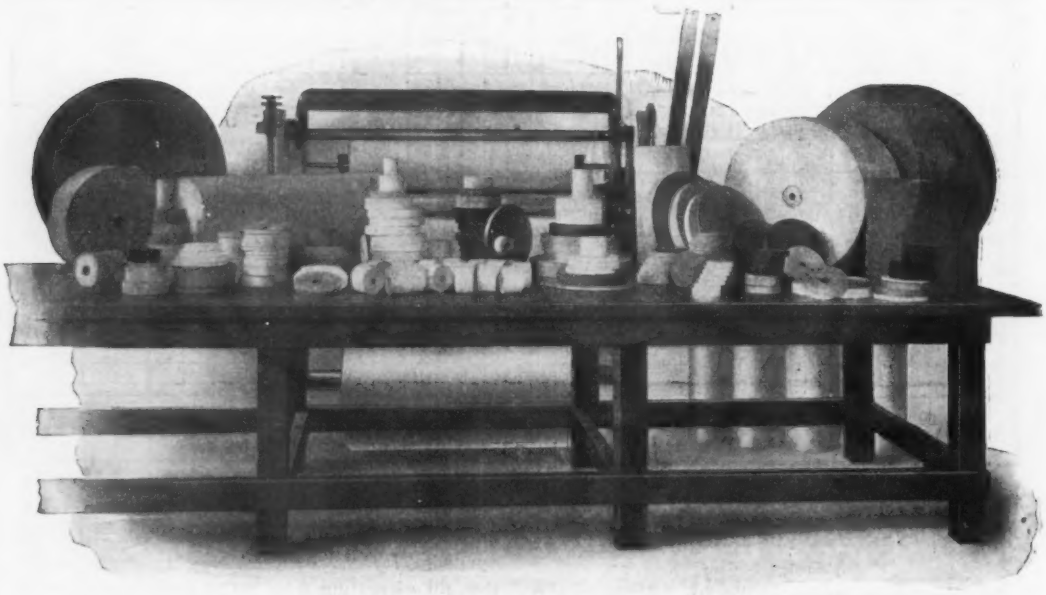
Canada, Ontario, Toronto. Joseph Simpson & Sons, Ltd., 8 Berkeley St., have installed five additional sets of cards. They manufacture underwear, sweater coats and fancy knit goods.

Connecticut, Putnam. A lot of new machinery has been installed in various departments of the Waterman Worsted Company, including electric motors, and manufacturing has been started with a night shift. They have enough business to keep two shifts employed until into February. Yarn dyed men's wear is manufactured.

Connecticut, Stafford Springs. Twenty houses are to be built by the Rhode Island Worsted Company for operatives at a cost of about $96,000.

Maine, Dover. Owing to the extremely low water in the Piscataquis River the American Woolen Company will use electricity as auxiliary power in the Mayo Mill at Foxcroft, and the Brown Mills, at Dover. The company has petitioned the selectmen of Foxcroft for permission to set up electric equipment.

*Maine, Kennebunk. The plan to enlarge the Kennebunk Mills has not been dropped, but they do not expect to go ahead on the project this winter. The Kennebunk Mills is a department of the Goodall Worsted Co., of Sanford. A new dresser frame for making warps was recently installed.



Specimens of Rolls, large and small, produced by

Cameron Slitting and Rewinding Machine

(UNIVERSAL TYPE)

Correspondence is invited relative to all problems involving a *rolling up process* or any operation where fabric or other material is split into narrower widths and rolled up into coils.

Perfect Rolls are *impossible* by *old style Rolling Up Machines.* Let us make some suggestions.

Cameron Machine Company

57-61 Poplar St., Brooklyn, New York

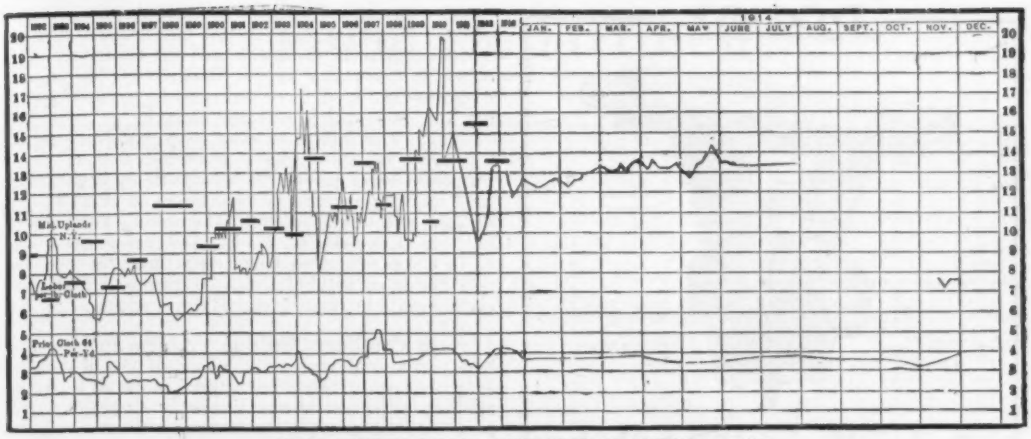


CHART SHOWING RANGE IN THE PRICE OF COTTON TO DATE.

The short, heavy, horizontal lines indicate the size of the cotton crops in millions of bales.

THE COTTON MARKET

The opening of the English and American cotton exchanges has made it possible once more to quote prices for cotton. The cotton line on our chart, which has been missing since August 1st, is restored at the middle of November and shows a decline from 12 1/2 cents at the end of July to 7 3/4 cents on November 16. There has been a notable absence of speculation since the exchanges opened and spot business, both in this country and Europe, has been on a moderate scale. The movement into sight from August 1st to November 27th is estimated by the "Chronicle" at 5,047,063 bales, as compared with 7,712,966 bales for the corresponding period last year. The same authority estimates the world's visible supply on November 27th at 4,699,604 bales, as compared with 5,379,906 bales on the corresponding date of 1913; 5,650,310 bales in 1912, and 4,706,034 bales in 1911. The Government ginning report showed 11,624,708 bales of cotton ginned up to November 14, as compared with 10,444,529 bales for the corresponding period of 1913; 10,299,646 bales in 1912. The 1914 figures are accepted as indicating that the largest crop in the history of the country is coming on the market, some estimates for the crop being as high as 16,500,000 bales.

COTTON.

New Mills.

*Kentucky, Louisville. Buildings at Floyd and A Sts. have been secured by the Kentucky Cotton Yarn Company and alterations are being made to adapt them to the manufacture of specialties in coarse cotton yarns, 6s and under. Manufacturing will be started about January 1 with 2,000 spindles and preparatory equipment giving employment to 60 hands. A specialty will be made of all kinds of mop yarns. About 9,000 bales of cotton will be used annually, a part of the production ending at the slubber. Steam power will be used. This company was organized by Ira F. Phillips, formerly superintendent of the Louisville Cotton Mills Co. A charter has been granted with capital stock of $100,000, and W. C. Nones has been elected president; S. M. Nones, secretary and treasurer, and Mr. Phillips, manager and buyer. W. C. Nones was president of the Kentucky Wagon Mfg. Co., for many years and his son, S. M. Nones, was associated with him in this business. Some of the product will be sold direct and some will be sold through selling agents. Connections with selling houses have not been arranged as yet.

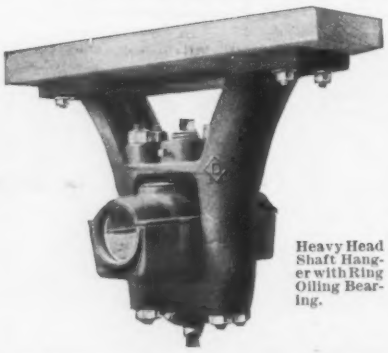
*North Carolina, Belmont. The work of installing machinery in the new National Yarn Mills has been started. About 12,000 spindles with preparatory machinery will be installed for manufacturing 60s to 90s yarns. Particulars of the plant have been given in previous reports. A. C. Lineberger is president and R. L. Stowe, is treasurer. R. C. Biberstein, Charlotte, is the architect-engineer in charge.

WEIMAR BROS. MANUFACTURERS OF Cotton Mercerized Tapes

SPOOL TAPES, BINDINGS AND NARROW FABRICS FOR UNDERWEAR AND OTHER TRADES

Phone Connections. Works, 2046-48 Amber Street, PHILADELPHIA, PA.

DODGE



Heavy Head Shaft Hanger with Ring Oiling Bearing.

Dodge Heavy Head Shaft Hanger for Severe Service

THE Dodge Heavy Head Shaft Hanger is of massive design, and possesses every necessary and desirable attribute for operation under the most severe conditions to be found in any class of service, and is particularly desirable for use in textile plants.

Into this hanger we have put the weight, the strength, the materials and the finish calculated to produce a hanger which will meet the ideas of the most critical engineer and mill superintendent.

The Dodge Heavy Head Shaft Hanger is made in two standard "drops," one giving a distance from the base to shaft center of 12 inches, and the other giving a distance of 18 inches.

In order to secure additional drops which are sometimes necessary, cast iron shoes made to fit the foot or base of the hanger, are employed.

We should be glad
To Figure With You
on this hanger.

Dodge Manufacturing Company

Power Transmission Machinery for Textile Mills

Mishawaka, Indiana

Branches and Agencies in All Principal Cities

*Georgia, La Grange. A charter has been secured with capital stock of $500,000 by the Hillside Cotton Mills, the new cotton mill project organized by Fuller E. Callaway, and his associates. As noted in a previous report Park A. Dallis Co., of Atlanta, Ga., have been engaged to prepare plans for the mill which will be built in or near La Grange. The capital stock was oversubscribed but the form of subscription provided that all subscriptions were subject to allotment by the organizers and preference has been given to small stockholders and home people. The selling agents will be J. H. Lane & Co., N. Y. Definite information as to the products to be manufactured by the new mill has been withheld but it is rumored that specialties will be manufactured for export.

North Carolina, Charlotte. A new concern has been organized under the name of the Robinson Mfg. Co., with authorized capital stock of $100,000, and the old plant of the Charlotte Cordage Company has been taken over and will be equipped with 3,500 spindles with preparatory machinery, electric power equipment, etc., to manufacture 14s to 20s coarse hosiery yarns. Later the equipment will be increased to 8,000 spindles, according to plans, as the building is large enough for that number. The incorporators are W. L. and W. E. G. Robinson and W. A. Watson. W. L. Robinson was formerly superintendent of the Cannon Mfg. Company's plant at Concord. W. E. G. Robinson was superintendent of the Franklin Cotton Mills at Concord, and is a son of W. L. Robinson.

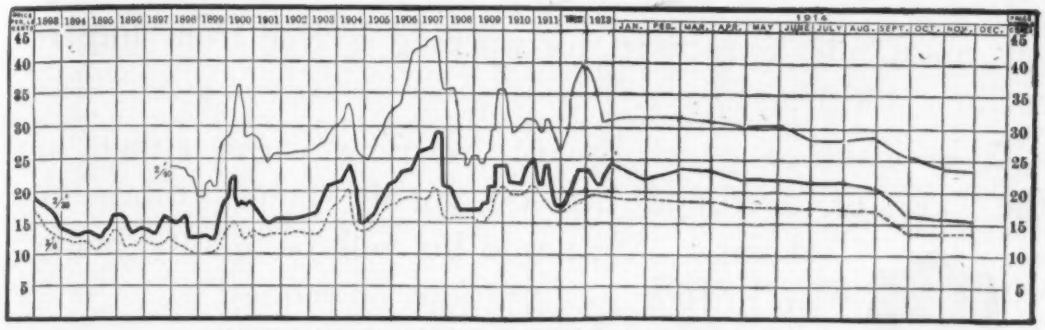
*Texas, Texas City. A prospectus has been issued by the promoters of the Texas City Cotton Mfg. Company, which was recently organized with authorized capital stock of $500.000, making a general appeal for the building of cotton mills in Texas and especially for support of the Texas City Cotton Mfg. Company's project, in order to consume a larger part of the Texas cotton crop. Shares are placed at par value of $5 and cotton will be accepted in exchange for stock on a basis of ten cents per pound, middling cotton. If sufficient capital is subscribed it is proposed to locate the mill at Texas City, a port on the mainland side of Galveston Harbor, which possesses advantages for reaching South and Central America. Among the men interested are J. H. W. Steele, president of the Texas City Steamship Co., and E. A. Bynum, vice-president and general manager of the Texas City Terminal Co. An office has been opened in Houston at 302 Scanlon Bldg., in charge of D. J. M. Head, the promoter.

.....

Enlargements and Improvements.

*Alabama, Sylacauga. New winders, intermediate frames and fine frames are being installed in the addition to the plant of the Marble City Mills, which has just been completed. A sprinkler system and a humidifying system are also being installed and a new warehouse is to be built soon. The product will be a finer grade of yarns from double roving. Benjamin Russell of the Russell Mfg. Co., Alexander City, recently became president, and S. P. MacDonald, secretary and treasurer.

Yarn Department



GRAPHIC CHART SHOWING RANGE IN THE PRICE OF COTTON YARN TO DATE.

THE COTTON YARN MARKET

The Philadelphia market has been extremely dull with probably less yarn being sold and delivered during the past few weeks than within any two weeks for a number of years. Prices, however, have held strong at the recent advance and show few signs of weakening on any number. Spinners are asking 17 and 17 1/2 cents for 2/20 warps which is an advance of two cents per pound over prices quoted for the same yarns during the early part of the month. Other prices are also on a higher basis, but with a more pronounced advance than on the 2/20s. Manufacturers are in need of business in almost all lines of textiles and there is probably less than one half the looms in Philadelphia in operation. Men's wear, dress goods and shirtings are especially dull. The upholstery and carpet business can hardly be called fairly employed, while some of the tape mills need business badly, but others are in good condition. Towel and terry cloth manufacturers have been fairly busy, but at the present time are not taking much future business. None of these conditions make a manufacturer anxious to cover his future requirements at present prices especially as most of them bought recently as much for their staple requirements as they could when they thought the market was at the bottom. The dyestuffs situation continues to cause some anxiety, but is not regarded so seriously as during September. There seems to be a surprising feeling of confidence among the manufacturers in spite of the prevailing dull condition and, taking things as a whole, a turn for the better in the near future is anticipated.

Eastern Cops.

6s	14¼
8s	15¼
10s	15¾
14s	15¾
16s	16½
18s	17¼
20s	17¾
22s	18¼
24s	18¾
26s	19¼
30s	20½
34s	19½
36s	23½
40s	24½

On cones, ¾c. more up to 14s; 1c. more from 15s to 22s; 1½c. from 23s to 35s, and 2c. above that.

Eastern Two-Ply Skeins, Carded Peeler

12s	17
14s	17½
18s	18½
20s	19
24s	20½
26s	21½
30s	22½
36s	25
40s	27
45s	31
50s	33
55s	39
60s	42

Eastern Two-Ply Warps, Carded Peeler

2/30s	23
2/36s	25½
2/40s	27½
2/45s	32
2/50s	34
2/60s	43

Broad Silk and Ribbon Manufacturers

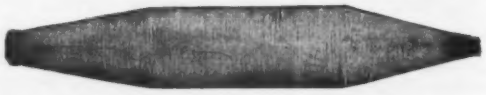
cannot obtain their maximum production unless the 2 or 3 ply Spun Silk Yarn used for warping is free from imperfections and true to size.

We make a specialty of warping yarns either in the grey or dyed, put up on spools, cones, tubes or skeins. A sample lot will be gladly made up to your specifications on request.

We make singles in all sizes on cops in the grey. Do you want to see samples?

Nonotuck Silk Company

CORTICELLI SILK MILLS
Established 1838
SPUN SILK YARNS
Florence, Mass.



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Windsor Locks, - Conn.

MANUFACTURERS OF

Novelty Yarns Boucle, Bourette and Spirals, in Cotton, Wool, Worsted, Mohair and Silk.

Cotton Warps on Beams, Jack Spools, Tubes and Cones. In Fancy Twist, Colors and Printed.

Mercerized Cotton Yarns Gives the High Silk-Like Lustre in Knit Goods and Woven Fabrics.

MONUMENT MILLS, HOUSATONIC, MASS.

HIGH GRADE COTTON YARNS White, Colors, Bleached
On Beams, Jack-Spools, Cones, Skeins and Chain Warps
FAST-BLACKS & COLORS | For Woolen Mills a Specialty | WE SELL DIRECT

PRESS PAPER
HIGHEST GRADE
BEST VALUE
Mills
RAINBOW, CONN.

JACQUARD CARDS

THE MERWIN PAPER CO

SPECIALTIES
FOR ALL PURPOSES
Inquiries Solicited
Address
HARTFORD, CONN.

THE PHILADELPHIA MARKET

7s and coarser	14
8s and 9s	14¼
10s	14½
12s	15
14s	15½
16s	16
18s	16½
20s	17
22s	17½
24s	18
26s	18½
30s	19½
40s	24½
50s	32½

Southern high grade mule yarns:—

Cones

10s	17
12s	17½
14s	18
16s	18½
18s	19
20s and 22s	19½-20½
24s	21

Southern frame yarn, lower grades:—

6s and 8s	13¾
10s	14

Eastern cones (high grade quality):—

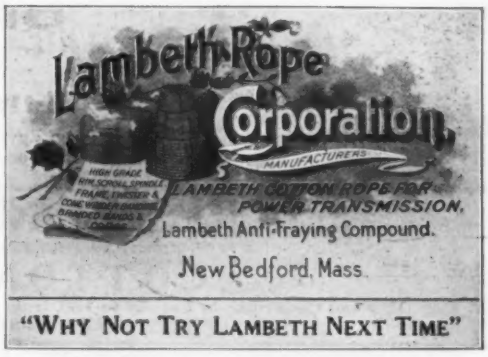
10s	17½
12s	18
14s	18½
16s	19¼
18s	19¾
20s and 22s	20¼-21¾

Skein yarn (mostly Southern):—

4s and 8s soft	13½-14
10s and 12s	14½
14s and 20s	15-16
22s	16
10/2	14½
16/2	15
20/2	16
30/2	18
40/2	24
8/2	14½
7/6	14½

Southern warps:—

10/1	14
14/1	14½
16/1	15
20/1	15½
22/1	16
26/1	17
30/1	18
8/2	14
12/2	15
14/2	15½
16/2	15½
20/2	16
26/2	17½
30/2	18½
40/2	24
50/2	32



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Cotton Yarns

PROVIDENCE, R. I.

Providence, Chicago, Philadelphia, New York

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MERCERIZED GLAZED GASSED } COTTON YARNS

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Jacquard Harness Twines of all kinds on hand and made to order

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COMMISSION MERCHANTS

COTTON YARNS

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Brown Building, 185 Summer Street, - Boston, Mass.

Reels for Cotton WOOLEN AND WORSTED

Patented Hosiery Winders, Cop Winders and Spoolers

LINDSAY, HYDE & CO.,

2124 to 2130 E. York St., PHILADELPHIA, PA.

Students Cotton Spinning

By NASMITH

Price $3.00. Express prepaid

FOR Student and Manufacturer. Covers all operations from ginning through ring and mule spinning.

600 pages, 600 illustrations, drafts, plans, etc.

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ORSWELL MILLS

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Capacity, 45,000 Spindles.

HIGH GRADE YARNS

From Egyptian and Peeler Cotton, Carded or Combed, in Chains and Skeins, on Balls, Beams, Spools, Cops, Cones, Tubes, Single or Twisted.

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PAWTUCKET, RHODE ISLAND

COTTON YARNS

CARDED and COMBED, in Nos. 10 to 120, from PEELER EGYPTIAN and SEA ISLAND COTTONS
MERCERIZED YARNS, IN SINGLE OR PLY, A SPECIALTY

Industrial Tape Mills Co.

Jasper and Huntingdon Sts. Phila., Pa.

Manufacturers of

NARROW FABRICS

SPOOL TAPES. STAY BINDINGS AND BRAIDS

Also Sole Manufacturers of

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New Guaranteed Non-Shrinkable Tape

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FLAX SPINNERS BELFAST, IRELAND

Linen Weaving and Knitting Yarns

LINEN THREADS OF EVERY DESCRIPTION

T. J. PORTER & SONS Large Stocks

Selling Agents, Philadelphia Quick Delivery

Knitting and Weaving YARNS

Cones, Cops, Warps, Skeins,
Single, Double, Three-Ply, etc.
Peeler, Egyptian, Mixed Colors.
Large Assortment

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Lowell Crayons Meet the requirements of any cotton, woolen or worsted mill.

May we send samples? 15 colors and white

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The Bradley Stencil Machine

Makes stencils in half a minute, at reduced cost of 1-10 cent each. Write for catalogue and price list.

In universal use by thousands of manufacturers and shippers.

A. J. BRADLEY

Also manufacturers of Oil Stencil Board. Write for prices and samples.

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Linen Weaving and Knitting Yarns

Linen Jacquard Harness Twines

And Linen Yarns and Threads for every purpose

Turkey Red Yarns

LARGE STOCK PROMPT DELIVERIES

Established 1844

BENJ. BUCKLEY'S SON

(WM. J. BUCKLEY) *Gun Mill, Paterson, N. J.*

Manufacturer of all kinds of SPINDLES, FLYERS, RINGS, TUBES, CAPS, etc., for Cotton, Silk, Flax, Woolen and Worsted Machinery.

Roving Spindles and Flyers a Specialty. Light Forgings.

REPAIRING OF ALL KINDS

The Ramie Agency
Manufacturers' Agents
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Ramie Yarns and Threads

HAVE REMOVED
TO NEW AND LARGER QUARTERS AT
432 FOURTH AVE. Corner of 29th St.

THE LINEN YARN MARKET

It is impossible to give a reliable report regarding the linen yarn market abroad. This is especially true regarding yarns that have hitherto been made of Russian flax and similar grades. Yarns made from this material has been the most prominent and most extensively used of any other material on the market. Flax out of which these yarns have been made was sold last year at $10 per ton, and today it is bringing in the neighborhood of $325 per ton. Little or none is being offered in the market at even this price. As there is no possibility of assuring a shipment of this flax before the end of next May, the situation must be obvious to all those interested in such yarns. Substitutes of every description are being sought and every effort is being made by the Irish spinners who are using up raw material of every description for yarns as a substitute. Special attention is given to Italian hemp, which is regarded as the best value in the way of a substitute at the present moment. It involves, however, the use of special machinery for the treating of the hemp and already a number of spinners have installed machinery for this purpose. As this hemp can be spun only to rather coarse numbers, it leaves a considerable space between that point and the better class of yarns made with Russian flax. Prices are still advancing and in fine numbers an advance of 50 cents a bundle is asked and easily secured. In numbers from 20s downwards it is almost impossible to secure any yarn, as the British government has put an embargo upon their exportation. The finer grade of yarns in the higher numbers are not so extensively sought after and prices are on a par with former quotations. This is to some extent explained by the fact that the American market is not seeking high class linens at present prices.

("A" Quality)

35s Lea on cones	83-90
50s Lea on cones	96
60s Lea on cones	1.00
80s Lea on cones	1.00
90s Lea on cones	1.10-1.15
100s Lea on cones	1.15-1.20
110s Lea on cones	1.30-1.40
120s Lea on cones	1.70

Increase Shop Efficiency!

Save Valuable Time in Handling Tools and Small Parts

Merchandise or Tool Truck or Spool Truck for Textile Mills

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Made with heavy galvanized sheet steel trays. Size inside of angles 31 by 31 inches square and 36 inches high over all. Braced as illustrated. Mounted on roller bearing casters.

Trays are interchangeable. State height of trays required. Total weight about 100 pounds each.

We make high grade angle steel office and factory stools, chairs, work tables, trucks with galvanized iron trays or pans and angle steel special products to order for office and factory use.

Truck No. 331

We can make stools or trucks as per cut herewith of any size or dimension required. Send us your specifications. Work in angle steel specialties solicited. No. 11 without back is No 1. *Other styles and sizes shown in catalog.*

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off, grease and other mill stains quickly and permanently removed by the Sanitex Process. Machines installed in Textile and Knitting Mills, or Spotting done for the trade at reasonable rates.
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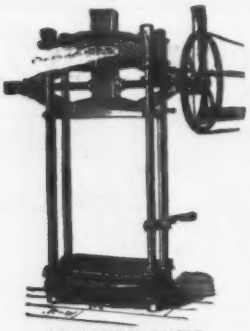

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Hydraulic or Knuckle Joint
Any Size Any Power

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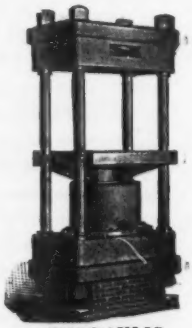

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4A

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SPEED REDUCING DEVICES
TO CONNECT
HIGH SPEED MOTOR TO MACHINE.
GEARS RUN IN OIL. CASES DUSTPROOF
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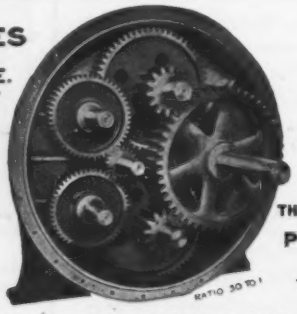

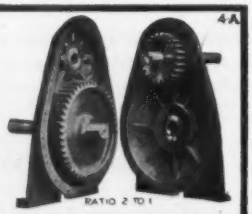

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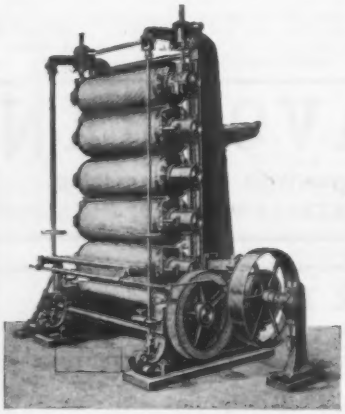

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MACHINERY

Enlargements and Improvements.

Connecticut, East Killingly. Plans have been completed by the International Cotton Mfg. Company for further enlargements which will increase the output about forty per cent. Absorbent cotton and sanitary specialties are manufactured. Additions and improvements have been under way almost continuously since the present management took charge.

Connecticut, Jewett City. A large turbine has been received by the Ashland Cotton Company to replace the disabled steam engine which is now being dismantled. A large part of the plant is already electrified and additional electrical equipment will be installed so that when the new turbine is in operation the plant will be wholly operated by the electric drive. Large orders are on hand and the plant is operating day and night to keep up with contracts for duck. Recently 100 new looms besides winders and other machinery were installed. It is expected that the night and day schedule will continue indefinitely. A great many improvements have been made to this plant within the last two years and much new building has been done and new machinery equipment has been installed. The busy condition of the Ashland Cotton Company also affects favorably the W. A. Slater Mills, Inc., which supply some of the yarn used.

*Connecticut, Putnam. The new addition being built to the plant of the Manhasset Mfg. Co., manufacturers of tire fabrics, will cost about $12,000 and will give room for a considerable increase.

*Connecticut, Unionville. Construction work will be completed about January 15, 1915, on the addition under construction for J. Broadbent & Son. The enlargement will be 3 stories high, 100 by 50 feet, of brick construction and on its completion much of the machinery now used will be moved into the new space and a quantity of new machinery will be added for manufacturing cotton batting, the output of the plant being increased 100 per cent. Some absorbent cotton will be manufactured. The business is at present in process of incorporation and officers will shortly be elected. J. D. Horsfall is superintendent and Fred J. Broadbent is buyer. Electric power is used.

*Georgia, Barnesville. The 56 new looms ordered by the Aldora Mills are in addition to the present looms and do not take the place of any old equipment. The office is at Thomaston.

Georgia, Glovers. New cards are to be installed in the plant of the Juliette Milling Company and a number of old cards will be taken out and broken up.

Georgia, Macon. The Manchester Mfg. Company has placed an order for new drawing frames to replace old equipment.

*Illinois, Aurora. Six hundred new automatic looms are being installed in the Aurora Cotton Mills to take the place of old plain looms.

*Massachusetts, Northbridge. The ell being built to the Rockdale Mill is to enlarge the repair shop.

CREDIT

Every merchant is aware of the fact that there are constant improvements in mechanical devices to simplify the manufacture of merchandise.

The successful merchants instantly install the machine or attachment that increases the efficiency of labor, or safeguards the welfare of employees.

Surely the successful Textile Manufacturer has the same interest at heart in securing the most efficient credit system.

The National Credit Office has introduced new features in the credit reporting field that increase the efficiency of the sales force and decrease the loss by bad debt.

As this service is automatic, and unlimited in its scope, every manufacturer can afford to use it.

Do not renew your contract for credit reporting for 1915 until you have a demonstration of the National Service.

Write to-day for full particulars of this new, automatic, Credit System.

National Credit Office
50 Union Square New York

COUNTING "PICKS"

Mechanical counters are extensively used for their convenience and reliability in this work.

In Paying Weavers

you will find that payment by the "pick" is the most satisfactory way for both you and the weaver.

Count the "picks" with Roco Counters—they are accurate.

We make a variety of counters for use on different textile machines. Send for "Catalog 18."

THE C. J. ROOT COMPANY
100 MILTON STREET BRISTOL, CONN.

SMITH & FURBUSH MACHINE CO.

PHILADELPHIA

Manufacturers of

PICKERS—Lumpers; Rag, Burr, Wool, Cotton, Jute, Fearnaught and Garnett Pickers; also Rag, Carpet and Jute Shredders.

WILLOWS—Continuous Cotton Stock Opening, Cleaning, Metal Extracting and Condensing Outfit; also Square Box and Cone Willows or Dusters.

GARNETT MACHINES—For carding cotton and woolen waste clippings, etc.; also for manufacturing cotton, wool and jute batting or felts.

FEEDS—Self feeds for cotton, wool, worsted or jute; also Camel Backs, Blamires and Apperlys.

METALLIC BREASTS—Burring Machines and Self Stripping Feed Rolls for Cards and Garnett Machines.

RECLAIMING MACHINE—For Opening and Cleaning various kinds of Cotton Mill Waste.

CARDS—Woolen, Worsted, Cotton Waste, Shoddy, Hair and Jute Cards; also Special Cards for the manufacture of Wool Hats.

MULES—Heavy and Durable for Wool and Waste Yarn.

TWISTERS—Plain or Fancy Twisters for Flake, Loop or Bourette Yarn.

BOBBIN WINDERS—Automatic Jack Bobbin Builder and Adjustable Creel for different length spools.

WARPING MACHINERY—Copper Cylinder Warp Dressers with single and double size pans; beamers; Section and Pinless Warp Mills, Creels and Dresser Spoolers for Wool or Worsted.

GRINDERS, Etc.—Floor, Traverse and Portable Grinders for Cards, Garnetts or Rag Pickers; also Turning Rests, Fillet Winders, Card Clothing Stretchers and Cleaning Frames.

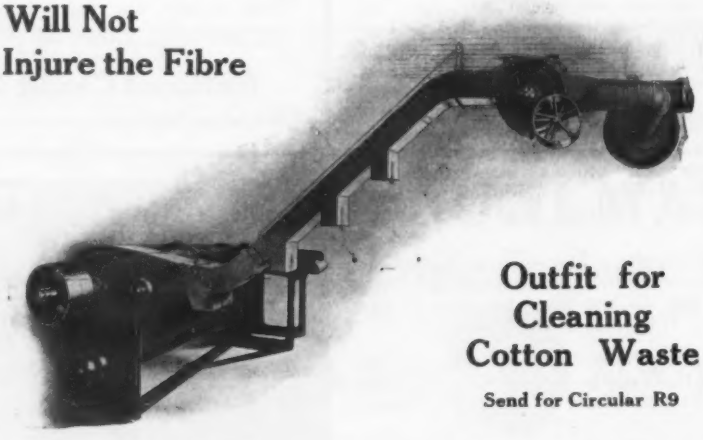
Special Circulars furnished for each Machine

Felting Machinery for Manufacturing Soft Felts or Commercial Batts, for Mattresses, Comforts, etc, from Cotton Waste, Linters, Jute, Wool and Wool Waste

A complete line of Machinery for Manufacturing Gunny Bagging from Old Gunny Bagging
Complete Equipment for Manufacturing Mop Yarn and Rope from Cotton Waste

Estimates and complete plans furnished

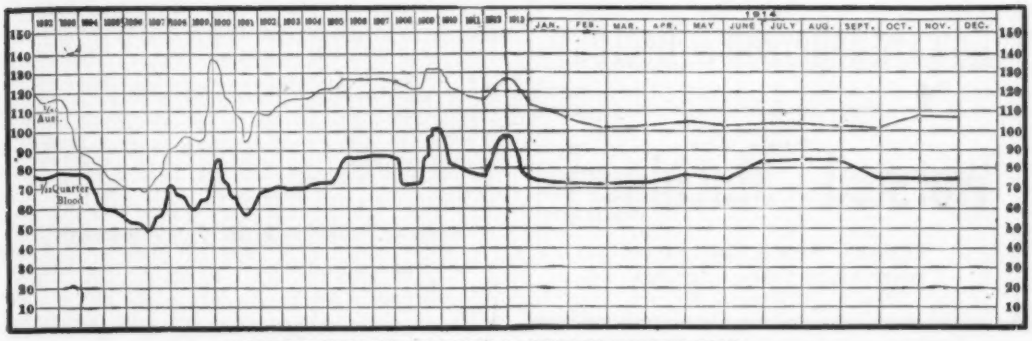
Will Not Injure the Fibre



Outfit for Cleaning Cotton Waste

Send for Circular R9

This outfit opens and cleans Picker Droppings, Card Fly, Mill Sweeps, Linters, etc., removing straws, nails, wood, etc.; and then condenses the stock and drops it into a bin. The dust and air are drawn out and blown wherever desired.



GRAPHIC CHART SHOWING RANGE IN PRICE OF WORSTED YARN.

WOOLEN AND WORSTED YARN MARKETS

Worsted spinners in some lines are fairly well employed, while others are dull and looking for business. It is their opinion, however, that conditions hinge largely on what England intends doing regarding the embargo on wools. If this embargo is raised and wool is dumped into this country prices of both wools and yarns will show a decided decline. On the other hand, if the embargo is not raised and the American government does not put an embargo on domestic wools going out of this country prices will increase. For the purpose of going into this matter thoroughly a committee of wool dealers has been appointed to go to Washington and take up the matter of putting an embargo on wools going out of the country so as to protect our home industry as the market is being rapidly depleted of raw stock especially on the low grades, orders for which are being received from Canada and Europe as well. Business, therefore, in the woolen and worsted trade is depending solely on the authorities in Washington and London as far as future orders are concerned. There has been quite a few yarn orders placed with the various spinners from manufacturers who have received government orders in lines where worsted yarns are used, but there has been very little placed for future requirements for needs in this country, as every one seems to be waiting on what will take place and buying on a hand to mouth basis.

BRADFORD SPUN YARN

2/12 to 2/16 low common	55-57½
2/20 to 2/24 low 1/4	60-62½
2/20 to 2/25 1/4 blood	67½-70
2/26 to 2/28 1/4 blood	70-72½
2/32 1/4 blood	72½-75
2/20 3/8 blood	77½-80
2/26 3/8 blood	80-82½
2/32 3/8 blood	80-82½
2/36 3/8 blood	77½-82½
2/40 1/2 blood	92½-97½
2/40 delaine	1.00-1.02
2/50 delaine	1.07½-1.10
2/40 Australian	1.07½-1.10
2/50 Australian	1.12½-1.17½
2/60 Australian	1.25-1.27½
3/30 and 3/32 luster	95-97½
3/36 luster	1.10-1.12½

KNITTING YARNS

Dyed and Bleached—Bradford System

2/7s straight 1/4 blood	82½-85
2 and 3 ply 10s-15s straight 1/4 blood	80-82½
2 and 3 ply 16s-20s straight 1/4 blood	82½-85
2 and 3 ply 20s-24s straight 1/4 blood	85-87½
2 and 3 ply 24s-28s straight 1/4 blood	87½

(Reduce 8c. for yarn in oil)

FRENCH SPUN YARN

1/20 1/4 blood	77½
1/20 high 1/4	80
1/20 3/8	80
1/20 high 3/8	82½-85
1/20 1/2 blood	87½
1/30 1/2 blood	90
1/40 1/2 blood	92½-92½
1/50 delaine	1.02½-1.05
1/40 Australian	97½-1.00
1/50 Australian	1.07½-1.10
1/60 Australian	1.17½-1.22½
1/70 Australian	1.25-1.27½

For two ply knitting twist add 5c. additional to above prices.

For two ply weaving yarns add 7 1/2c. additional to above prices.

FRENCH SPUN MERINO YARNS—FINE ONE-HALF BLOODS

Standard Grade

1/20 50/50 White Merino Cop	62½-65
1/30 50/50 White Merino Cop	65-67½
1/40 50/50 White Merino Cop	67½-70
1/20 60/40 White Merino Cop	67½-70
1/30 60/40 White Merino Cop	72½-75
1/40 60/40 White Merino Cop	75-77½
1/20 70/30 White Merino Cop	75-77½

Edward Jefferson & Brother

SPECIALISTS IN

Worsted Machinery

117-123 South 2d Street
PHILADELPHIA, PENNA.

MACHINERY ERECTED

For Spinners of Cotton, Woolen, Worsted, Silk and Flax
Making a Specialty of WorstedMachinery
Carding, Combing, Drawing, Spinning, Twisting, Finishing, Lining, Levelling, Dismantling, Packing, Shipping
Work Done Anywhere *All Work Guaranteed*
MICHAEL KERWIN, 2321 E. Norris St., Philadelphia, Pa.

William Whitman Co.
COMMISSION MERCHANTS
COTTON and WORSTED YARNS
BOSTON NEW YORK PHILA. CHICAGO CHARLOTTE

JAMES LEES & SONS CO.
MINERVA MILLS
Spinners of WORSTED YARNS
For Weaving and Knitting
In the Grey and in all colors and mixtures
Philadelphia Office: 627-29 Bourse Bldg.
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J. B. Jamieson
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COTTON YARNS
of all descriptions
Correspondence Solicited

HAROLD R. SHIRLEY
242 Chestnut St., Philadelphia, Pa.
French Spun Worsted and Merino Yarns
Bradford Spun Yarns
Woolen Yarns
FOR WEAVING AND KNITTING

SOAPS HIGH GRADE SOAPS
Bleaching, Fulling and Scouring
SOAPS
Red Oil and Olive Oil Crown Soaps
J. O. Draper Co. Est. 1860 Pawtucket, R. I.

1/30 70/30 White Merino Cop		77½-80
1/40 70/30 White Merino Cop		80-82½
1/20 80/20 White Merino Cop		80-82½
1/30 80/20 White Merino Cop		82½-85
1/40 80/20 White Merino Cop		85-87½
Sliver and Sanitary Mixes		3c. more
Coning on 1/20		2c. more
Coning on 1/30		3c. more
Coning on 1/40		4c. more

WOOLEN AND MERINO YARN MARKETS

Spinners report business as flat, the season for the buying of yarns of this character having ended. There is, however, some little lots being sold for filling in purposes, but no big orders being placed. They are receiving inquiries for yarns for next season's delivery, but the prices at which the trade is offering to buy today are so low that the spinners say they cannot meet them. The consumers act as if they did not recognize or appreciate the advance that has taken place in raw material. Knowing the spinner wants business they feel that he should offer them lower prices to get rid of his yarn, the knitter feeling that it is an accommodation on his part to take yarns from the spinner. The latter, however, does not see it that way and consequently claims that it is cheaper to shut down his mill and wait until prices become better.

Prices have advanced, using as an example 2/21 cut all wool yarns in colors selling today at 65 to 67 1/2 cents, an increase of 5 cents per pound. Certain mills that have large stocks of low priced yarn on hand are making lower offerings. The prices quoted in our schedule for December are based on the price of today's raw material. While these prices show an advance, some spinners controlling large amounts of raw stock at lower prices than today's market, are offering their yarns at figures considerably below these quotations. This makes it hard for spinners not so well situated to secure prices based on present raw stock conditions. This feature of the market will not be lifted until old stocks of wool are exhausted and spinners are compelled to come into the market for new wools.

WOOLEN AND MERINO YARNS

2/20 Light Grey Mixed	80%	20%	55-57½
2/20 Light Grey Mixed	90%	10%	57½-60
2/20 Light Grey All Wool			62½
2/20 Colored All Wool			65-67½
2/20 Bleached	80%	20%	67½
2/20 Bleached	90%	10%	70
2/20 Bleached All Wool			72½-75
2/23 Colored All Wool			67½
2/23 Bleached 90/10			72½
2/23 Bleached All Wool			75-77½

2/25 Light Grey Mixed All Wool	85-87½
2/25 Bleached All Wool	90-92½

THE RAG AND SHODDY MARKET

The advance in the prices for rags with unsatisfactory conditions in the wool goods market has created a difficult position for manufacturers of shoddy. The rise in rag values has been due to the war and the resulting heavy demand from abroad. Prices for rags in England have advanced from 25 to 30 per cent. since August 1st and the market is active and firm at the highest quotations. Foreign buyers have bought largely in this country. The market, under such unusual conditions, has naturally been feverish and there have been times when holders of stock have felt that the present quotations were too high to be stable. War conditions, however, have kept the market strong and buyers have been eager to pick up lots of stock at any concessions from regular prices. Shoddy manufacturers are having a dull trade owing to the unsatisfactory situation in the goods market. This and the increased cost of rags make the situation particularly difficult Spinners are buying rags and shoddy only to meet immediate requirements and the shoddy manufacturers are operating on the same basis. Wool waste is firm in sympathy with the rags market. There is a good demand for the better grades of white and light colored stock. The cotton waste trade is dull with signs of improvement, owing to more favorable conditions in the raw cotton trade. We quote as follows:

SHODDIES AND EXTRACTS

White knit	23-27
Red flannel	18-20
Red knit	20-21
Thibelts	17-18
Fine dark merino No. 1	14-15
Fine light merino	22-23
Fine black merino No. 2	15-16
Light delaine	20-21
Mixed delaine	12-13
No. 1 dark worsted	16-17
No. 2 dark worsted	14-15
Black worsted	16-17
Fine dark worsted clips	19-20
Blue serge, old	16-17
New blue clip	16-20
New black fine worsted clip	24-25
Light yarn, fine	28-30
Dark mixed, fine yarn	22-24
Dark blue hosiery clips, No. 1	17-20
Dark Blue hosiery clips, No. 2	14-16

NEW WOOLEN RAGS

Fine merchant tailors	10-11
Choice light worsted	15-16
Fine gray worsted	16-17
Coarse gray clips	11-11½
Fine dark worsted	10½-11½
Black worsted	17-18
Blue worsted	17-17½
Brown worsted	14
Blue serge	13½-14
Black serges	12½
Light serges	14½-15
Dark fancies	10-11
Dark serges	8½-9
New blue flannel	13-14
New scarlet flannel	18-20

SOFTS AND KNIT STOCK

Soft woolen, best	7
Red flannel	9½-10
White softs	18½-19
Merinoes, fine light	13½-14
Thibelts	9½-10
Knit stock, red	13-13½
Light gray, underwear	9½-10
Coarse gray	13-13½
Blue knit	9½-10
Mixed hoods	7½-8½
White knit stock	21-22

You Save Enough Insurance to Pay for the Equipment

So it costs you NOTHING to have the AMERICAN WATCHMAN'S CLOCK. Fully approved by all insurance companies. We equip factories with Fire Alarms, Signals, etc., also Employee's Time Recorders, and Telephone Systems. Electric Time System consists of Master Regulator in office with secondary electric clocks throughout the mill, insuring accurate time. Send for particulars.

Pettes & Randall Co., 150 Nassau St., New York

OTTO KUNZE

2542 Seventh Avenue, New York City

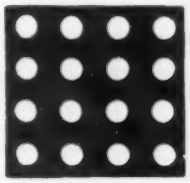
Our Specialty: Fibre Covered Shuttles Of Every Description

Samples sent on application

Woolen and Merino YARNS

Eaton Rapids Woolen Mills

EATON RAPIDS, MICHIGAN



Perforated Plates for Wool Washing

Rinsing and Carbonizing

In Special Metal

BECKLEY PERFORATING CO.,

Garwood, N. J.

Cheney Silk Yarns

for Woolen and Worsted Goods

MANUFACTURERS of silk-mixture goods buy Cheney Silk Yarns with confidence. They know from experience that particular care is taken in the production of Cheney Silk Yarns. They know, too, that the firm of Cheney Brothers has proved its reliability through years of catering to this particular trade. Cheney Silk Yarns are *good* yarns and are admirably adapted for securing good results. These yarns can be supplied in any form desired—on your own loom beams or jack spools; cones, spools or bobbins; also in ball warps. Quotations and samples on request.

CHENEY SILKS

CHENEY BROTHERS

Silk Manufacturers

4th Avenue and 18th Street, New York

National Silk Dyeing Co.

Main Office, PATERSON, NEW JERSEY, 140 Market Street

NEW YORK SALESROOM, 60 UNIVERSITY PLACE

Skein Silk Dyeing of every description for every class of textile manufacture.

Hosiery Dye—Boil-off, weighting and dyeing, treated especially to meet the requirements of the hosiery and knitting trade.

Piece Dyeing and Finishing—All silk and silk mixed goods.

Printing—Surface and warp printing.

WORKS:

Paterson, N. J. Dundee Lake, N. J. Allentown, Pa. Williamsport, Pa.

THE SILK MARKET

There is little or no activity in the raw silk market, and prices are lower on most grades. The manufacturers are for the most part holding back on buying, as no one wants to predict what the styles will be, or how much of the finished product will be wanted. This condition will probably remain until the final settlement of the war in Europe or at least until financial conditions change for the better. At Yokohama it is said that the market has remained quite firm, but with little activity. Some think that lower prices in this market will follow soon, but that is only problematical.

In Canton the situation is the same, very little silk being sold even at lower prices. It was thought that the prices would attract buyers, but this, as yet, has not had any material effect.

At Shanghai the demand for some grades of raw silk has been quite good, but on others no activity has been shown.

In Milan, Italy, the market has also been very quiet and quite a decline is noted. Some time ago the manufacturers in Italy curtailed their output quite considerably owing to war conditions. This has effected the market to a great extent. The silk manufacturers in this country are still playing a waiting game, although optimistic as to the future, believing the demand for their product will manifest itself in the near future.

There is at the present time a good demand for ribbons, especially in the narrow lines. All colors are wanted in the millinery trade where there is a good call for the wide widths. Velvet ribbons are also much in demand and promise a good season. Manufacturers of broad silks, with the exception of novelties, are not finding much demand at present, but expect at any time to see conditions change and business improve.

The dry goods districts still show a dull business in silk and silk mixed goods. To stimulate activity, a cut in prices has manifested itself in many lines. The prevailing style of tunic skirts has increased the demand for messaline, sateen and percaline linings, while bengalines for suits are very popular. A good season for both the printed silks and bengalines seems assured. The manufacturers and others in the silk industry seem to think that before the first of the year there is likely to be a decided improvement in the amount of business done. It is to be hoped that this will prove true. Below are prices current:

European

Grand Extra Classical Piedmond	3.80-3.85
Extra Classical Italian 12/14 12/16	3.40-3.45
Classical Italian 13/15 24/26	3.25-3.30
Best No. 1 Italian 13/15 24/26	3.25-3.30

6 months' basis

Japan

Filature Kansai Extra Extra	3.35-3.40
Filature Kansai Extra 13/15	3.30-3.35

VILLA, STEARNS COMPANY
Telephone, 6174 Gramercy
American Woolen Building
221 Fourth Avenue, New York
RAW AND THROWN SILK
Silk on Spools, Cones, Quills, Beams
DYED SILK FOR ALL PURPOSES
Philadelphia Office:
519 Bourse Building
Providence Office:
Howard Building

KROUT & FITE MANUFACTURING CO.,
MANUFACTURERS OF
Silk, Cotton and Mercerized Narrow Fabrics
SPOOL TAPES A SPECIALTY
TELEPHONE CONNECTION
OFFICE AND MILL ALLEGHENY AVE. AND EMERALD ST., PHILADELPHIA

Better Than Daylight

COOPER HEWITT — THE EFFICIENCY LAMP

We adopted the Cooper Hewitt Lamp

after a very careful consideration because we found it greatly improved working conditions in all departments, and the experience of several years has only confirmed this. The light, while a diffused one, has a penetrating quality that seems to go right into the harness and work on the looms and elsewhere, in a way that the more intense illuminants do not.

(*Extract from a textile manufacturers letter to us*)

Send for our Booklet 747 "Industrial Lighting"

Cooper Hewitt Electric Company

8th and Grand Streets, Hoboken, N. J.

Boston—161 Summer St.
Chicago—215 Fisher Bldg.
Cincinnati—1st Nat. B'k Bldg.
Cleveland—Engineer's Building
Detroit—Ford Building
Minneapolis—Andrus Bldg.
Philadelphia—124 So. 8th St.
Pittsburgh—Westinghouse Bldg.
St. Louis—Cen. Nat. Bank Bldg.

SAUQUOIT SILK MFG. CO.

INSULATING AND BRAIDING SILKS

ORGANZINE, TRAM AND HOSIERY SILKS

Fast Dye Organzines for Woolen Manufacturers a Specialty

Mills: Bethlehem, Pa., Philadelphia, Pa., Scranton, Pa.
New York Representative, Wm. Ryle & Co., 225 Fourth Ave.
Philadelphia Office, 4015 Clarissa St., Nicetown
Chicago Office, 206 So. Market St.
Boston Office, 78 Chauncey St.

SILK THROWING AND WASTE SILK SPINNING

By RAYNER

Deals with the preparation of yarn from the raw silk; also waste silk spinning and the utilization of waste products. For silk manufacturers or workers, or for men who use silk in connection with cotton, worsted or wool. 158 pages; 117 illustrations; cloth. **Price $2.50, prepaid**

LORD & NAGLE CO., Textile Publishers, 144 Congress St., Boston, Mass.

WILLIAM RYLE & CO.,

FOREIGN AND DOMESTIC

SPUN SILK YARNS and NOILS

Domestic Thrown Silk of every description. Fine Pure Dye Silks for the woolen trade a specialty. Importers of European and Asiatic Raw Silk.

225 Fourth Ave., Corner 18th St., NEW YORK CITY

Filature Shinshu Extra 13/15	2.95-3.00
Filature Kansai Best No. 1 13/15	2.95-3.00
Filature Kansai No. 1 13/15	2.80-2.85
Filature Shinshu 13/15	2.80-2.85
Rereels No. 1 13/16	Nominal
Rereels No. 1 1/2 13/16	Nominal
Rereels No. 1 1/2-2	Nominal

6 months' basis

China

Canton XXA 14/16 (new silk)	2.30-2.35
Canton XXB 14/16	2.15-2.20
Tsattle Blue Dragon & Flying Horse	2.52½-2.55
Tsattle Kun Kee Mars No. 1	2.90-2.92½
Tussah Filature Eight Cocoon No. 1-2	85

6 months' basis

SPUN SILK

The spun silk industry is still feeling the effects of the general depression in business and the manufacturers are hopeful, however, and feel that there will soon be more activity among the buyers. It is thought that prices will remain as they are for some time to come, although no one in the industry desires to commit themselves on this point:

60/2	3.80
50/2	3.70
40/2	3.60
30/2	3.45
20/2	3.35
10/2	3.25

ARTIFICIAL SILK

This trade is very quiet and remains in about the same condition as at date of our last report. Much artificial silk is being used, manufacturers only buying what their present needs require and are not stocking up to any extent.

The braid manufacturers have not come into the market much for this product, but unless all signs fail they are expecting a good spring business which will call for a fair amount of artificial silk. Below are prices current:

150 Deniers English A—Bleached	1.95
150 Deniers English B.—Bleached	1.85
150 Deniers English C.—Bleached	1.67

SILK.

Enlargements and Improvements.

*New Jersey, Paterson. Work has been completed on the new 4-story brick mill for the Goldy Ribbon Company, and the new quarters will be equipped and in use by January 1. Silk ribbons are manufactured.

A. P. Villa & Bros.

Raw, Thrown and Dyed Silks

Silk on Quills or Beams. Hosiery Silk on Cones

Societa per la Filatura dei Cascami di Seta, Milan (Italy)
Cascami Silk Spinning Company of America

"Cascami"

Schappe, Spun Silk, Cordonnets for Sewing in Skeins—on Cops—Spools —Cones—Beams.
In Gray or Dyed.
Special attention to regularity of sizes.

A. P. Villa & Bros.

Sole Agents for the United States and Canada

Emmett Building, 95 Madison Avenue, New York
Tel. 10080 Madison Square Mills: Passaic, N. J.

SPUN SILK

YARNS FOR ALL PURPOSES

AMERICAN SILK SPINNING CO., PROVIDENCE, R.I.

MINDLIN & ROSENMAN
Importers and Manufacturers of

Our Specialty;
DYED SILK FOR THE KNITTING TRADE
on cones and tubes

RAW and THROWN SILK, ARTIFICIAL SILK

Mercerized and Cotton Yarns, Yarns and Threads

121 Mercer Street, New York Factory and Dyehouse, Brooklyn, N. Y.

Baer's Automatic

Yarn and Cloth

Tester

MOTOR DRIVEN

Sold Exclusively Through

ALFRED SUTER

Textile Engineer

200 Fifth Ave., New York

Eureka Fire Hose

Cotton Mills, Woolen Mills, Knitting Mills and Factories need positive protection instantly available. Eureka Hose gives protection.

"Eureka" has the lasting quality and the capacity to resist wear and tear.

Fire Hose for every possible duty.

Eureka Fire Hose Mfg. Co.
NEW YORK

SILK

New Mills.

*New Jersey, Bloomsbury. Machinery is being started in the new silk mill established here by John H. Meyer & Co., 50 Union Sq., N. Y., with the assistance of citizens of Bloomsbury. A mill has been built and when running in full will have 120 looms on broad silks, with preparatory machinery, employing in all about 100 hands. A company has been organized under the name of the John H. Meyer Silk Co., with capital stock of $50,000, and John H. Meyer is president and treasurer; Henry Prunaret, superintendent; and Henry G. Warland, buyer. Electric power will be used. The product will be sold by John H. Meyer & Company.

New Jersey, Paterson. The Mohilev Silk Company are moving from the Todd Mill to 58 Railroad Ave. Six more broad silk looms will be put in when business improves.

New Jersey, Paterson. The Madison Silk Company are moving their broad silk plant from the Fulton Mill to the new Strange Mill, corner of Morton and Madison Sts., where they will have larger quarters and in which they may increase their number of looms later on.

*New York, Dunkirk. Work on the foundation for the new building of the American Glove Company has been completed and the brick work is up for the first story. The new structure will be 2 stories high, and will be used for the weaving department. The American Glove Company is a branch of the Niagara Silk Mills, at No. Tonawanda.

Pennsylvania, Allentown. A permit has been granted for the erection of an addition to the plant of Kaltenbach & Stephens, silk manufacturers. The enlargement will be a steel and brick building, 94 by 350 feet. Narrow ribbons are manufactured.

*Pennsylvania, Norristown. Frederick Ott, at one time superintendent of the Burlington Silk Company, has started a sixteen loom broad silk plant in the mill at the foot of De Kalb Ave. Cotton back satins will be made for the present.

*Rhode Island, Pawtucket. The Eastern Silk Co., reported incorporated some time ago with authorized capital stock of $50,000, has started up a plant of six looms on broad silks. W. Roberts is secretary and E. Fowler is manager. The management is looking for a commission house to handle the product.

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Enlargements and Improvements.

*New York, Gloversville. Following the purchase of an interest in the Normandie Silk Mills, Inc., by James A. Batty, a local leather glove manufacturer, the manufacture of lines of gloves and underwear will be added. Heretofore the silk cloth for gloves and underwear has been woven and sold to other manufacturers. For the present the Batty glove factory at the corner of Forest and Montgomery Sts. will be used for cutting up the fabric and manufacturing gloves and later on, as conditions warrant, increases will be made at the Washington Street mill, and all departments

will be consolidated. L. E. Winnie, the manager of the concern, has had extensive experience in the manufacture of gloves and when he promoted and organized the Normandie Silk Mills, Inc., it was with the idea of taking up the manufacture of gloves and underwear as soon as possible. The present time is considered ripe for this expansion. As noted in a previous report, the capital stock has been increased to $40,000 and J. A. Batty has been elected treasurer.

*Pennsylvania, Allentown. The new addition being erected to the Rionor Silk Company's is not being pushed very rapidly and will not be ready for occupancy before January first.

Pennsylvania, Jersey Shore. The Bloomsburg Silk Mills, which formerly operated a plant here, has transferred the property to the Susquehanna Silk Mills for a consideration of $85,000. The main plant of the Susquehanna Silk Mills is at Sunbury, Pa.

*Virginia, Charlottesville. New machinery in the winding, warping and weaving departments of the Charlottesville Silk Mills, which it was recently noted would be installed, is now in operation, increasing the capacity of the plant to 62 looms. This is a new concern which came here a little over a year ago and located in a 2-story brick mill, 60 by 130 feet. The capital stock of the company is $55,000. E. C. Rolker, 440 4th Ave., N. Y., is president and buyer, and Joseph P. Ryan, Charlottesville, is treasurer and superintendent.

.....

Mills Starting Up.

Pennsylvania, Doylestown. The Relda Silk Company has started operations in the new mill with eight ribbon looms, which will be increased to twenty looms when business warrants. Conditions are reported very good and every loom is being run full time.

.....

Mills Shutting Down.

New Jersey, Paterson. The broad silk plant of H. Miedendorf, located in the Pope Mill, closed November 25. It is the intention of the owners to dispose of the plant either now or later at private or public sale. The equipment includes 32 broad looms and auxiliary machinery.

MISCELLANEOUS.

.....

Canada, Alberta, Calgary. According to report, work will soon be started on the new mill to be built in Manchester, a suburb of Calgary, by the Western Canada Cordage Company, Ltd. It is estimated the plant will cost $150,000.

Kentucky, Covington. Plans have been made by the Reliance Textile & Dye Works for a $20,000 addition but the date of beginning construction work has not been fixed. This company is closely associated with Putnam, Hooker Co., Cincinnati, and does a business of dyeing and finishing cotton piece goods up to fifty inches. The present capacity is ten tons per day. James J. Hooker is president; L. S. Doggett, treasurer; and S. A. Hooker, general manager and buyer.

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NEW YORK
D. E. Douty, Mgr. F. G. Boye, Supt. K. B. Lamb, Chem. Eng.

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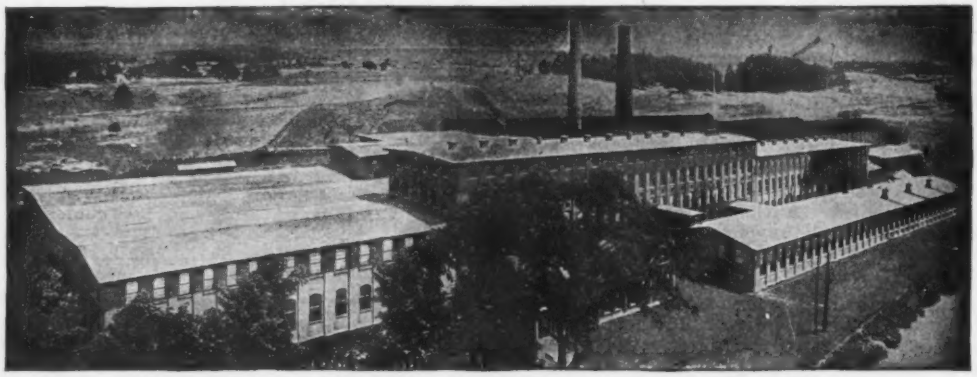

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Everything in White Goods.
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IT BOILS THIN. PENETRATES THE WARPS. INCREASES BREAKING STRENGTH. THE STANDARD SIZING AND FINISHING STARCH FOR TWELVE YEARS. A TRIAL WILL CONVINCE YOU.

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SOUTHERN AGENT - - JAMES H. MAXWELL, GREENVILLE, S. C.

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Cash Capital, $6,000,000

ASSETS, January 1, 1914.....$33,139,915.81
LIABILITIES (Except Capital)..... 17,066,896.12
SURPLUS AS REGARDS POLICY HOLDERS.. 17,873,019.69
Losses Paid Since Organization over 145,000,000.00

INDEMNITY
For Loss of
Profits
Commissions
Use and
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on acceptable
Protected Plants
at the
Minimum Rate

IS prepared to entertain liberal lines on Sprinkler-Equipped and Modern Improved risks generally, having a special department for the consideration of such business.

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DYESTUFFS AND CHEMICALS

The unsettled conditions in the dyestuff and chemical trades caused by the European situation make it impossible to get quotations which would be of any value to our readers. The dyestuff and chemical list of quotations will therefore be omitted until this trade is again on a normal basis.

MISCELLANEOUS.

*Kentucky, Louisville. J. S. Walker & Co., manufacturers of burlap bags, who are adding the manufacture of cotton bags, will cut the cloth, sew it into bags, and print the product. No manufacturing or bleaching will be done. They are located at 211 West Main St. Electric power is used.

*Massachusetts, New Bedford. The building on Nash Road, which is being altered by the William C. Jones Co., of Boston, for use as a cotton waste plant, will have new cement floors, a new boiler, new plumbing and electric motors.

Massachusetts, Westboro. The Westboro Weaving Company has ordered twenty new looms. Narrow fabrics, tapes and similar lines are manufactured.

Massachusetts, Worcester. The Mills Woven Cartridge Belt Company, government contractors for woven cartridge belts and heavy narrow cotton fabrics, have started work on a small addition, 21 by 27 feet, 3 stories high.

*North Carolina, Bessemer City. The Gambrill & Melville Mills, of Havre de Grace, Md., are putting the Harborough Mill into shape for manufacturing. The large water tank has been torn down and it is to be replaced with a new one. New roofs will be put on all buildings and new equipment will take the place of all spinning frames, drawing frames, roving frames, and some of the cards. Orders have been placed for all of the new equipment required.

Pennsylvania, Philadelphia. Edward B. Steimetz Co., dealers in plain and mercerized cotton yarns at 2229 Blair St., are installing an equipment for the purpose of coning, winding and tubing their own yarns, which will be operated by electric power. They are quite busy and have recently put on another salesman for local trade.

Pennsylvania, Philadelphia. Extensive additions and improvements have recently been made to the plant of the Frankford Bleachery, operated by Flynn & Gray, on Factory St., Frankford, where they are bleaching and finishing Turkish towels, terry cloths and cotton dress goods, making a specialty of hosiery and knit goods. The plant now has a capacity of five tons per day and is fairly busy.

Pennsylvania, Reading. Fred H. Hodges, 222 Cedar St., a manufacturer of cotton felt mattresses, has awarded the contract for the construction of a new 3-story mill, 53 by 114 feet, at Brown and Chestnut Streets.

Barrett Specification Roofs

On a fine new commercial structure—

THE first glance will reveal the fact that this building is built in accordance with the newest and best ideas of commercial construction. The same intelligence which planned the ample windows and the well-balanced architectural lines provided that the roof should be laid in strict accordance with The Barrett Specification.

Why did a first-class architect adopt a manufacturer's suggestion and incorporate, verbatim, in the building specifications the ready-made formula of the Barrett Manufacturing Company?

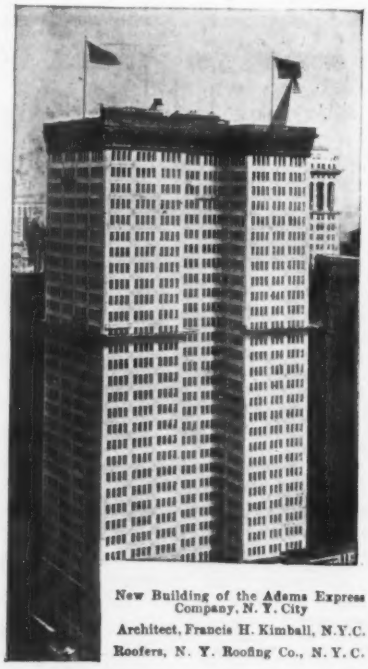
The Barrett Manufacturing Company does not lay roofs—it only supplies the coal tar pitch and tarred felt with which such roofs are made. Their interest is in having their materials rightly used, for the prestige of this type of roofing depends on good, sound workmanship fully as much as on correctness of materials.

The Barrett people can control the quality of the materials, but they can guarantee the quality of the roof only by inducing the architect or owner to have the materials used according to The Barrett Specification. This specification provides for a definite number of alternating plies of pitch and felt with a top covering of slag, gravel or tile. The process of laying the materials is described, step by step, in a practical way which any contractor can easily follow. When complete, the roof can be cut at random, and a glance at the cross section thus exposed will demonstrate whether or not the contractor has followed the specification requiring five plies of felt with pitch between at every point.

With the materials right and the workmanship right, the roof will be right.

A Barrett Specification Roof is good for upwards of twenty years without the slightest attention or repairs. It never needs painting; its first cost is less than that of any other permanent roof covering; it takes the base rate of fire insurance.

A copy of The Barrett Specification, with roofing diagrams, free on request. Address our nearest office.



New Building of the Adams Express Company, N. Y. City

Architect, Francis H. Kimball, N.Y.C.

Roofers, N. Y. Roofing Co., N. Y. C.

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Boston St. Louis Cleveland
Cincinnati Pittsburgh Detroit
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Minneapolis Salt Lake City Seattle

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Toronto Winnipeg Vancouver St. John, N. B.
Halifax, N. S. Sydney, N. S.

MILL STOCKS

Owing to the disturbed financial relations, current quotations of mill stocks are nominal. Following are the quotations previous to the breaking out of the war:

NEW BEDFORD MILLS

	Bid.	Asked.
Acushnet Mill	137½	...
Beacon Mfg. Co., com.	102	...
Beacon Mfg. Co., pfd.	...	115
Booth Mfg. Co., com.	...	21
Booth Mfg. Co., pfd.	...	47½
Bristol Mfg. Co.	...	67½
Butler Mill, com.	...	90
Butler Mill, pfd.	...	100
City Mfg. Co.	...	92
Dartmouth Mfg. Co., com.	127½	...
Dartmouth Mfg. Co., pfd.	97½	...
Gosnold Mfg. Co., pfd.	...	89
Grinnell Mfg. Co.	...	180
Holmes Mfg. Co., com.	104	...
Holmes Mfg. Co., pfd.	105	...
Kilburn	118	...
Manomet	...	114½
Nashawena Mills	...	66
N. B. Cotton Mills Co., com.	100	98½
N. B. Cotton Mills, pfd.	96	...
Neild Mfg. Co.	...	95
Nonquitt Spinning Co.	...	94
Page Mfg. Co.	...	77½
Pierce Mfg. Co.	295	300
Pierce Bros., Ltd.	100	...
Potomska Mills	115	...
Quissett Mills, com.	...	98
Quissett Mills, pfd.	100	102½
Sharp Mfg. Co., com.	...	85
Sharp Mfg. Co., pfd.	...	100
Soule Mills	...	80
Taber Mills	...	100
Wamsutta Mills	115	119
Whitman Mills	114½	123

SOUTHERN MILLS

	Bid.	Asked.
Abbeville	85	100
American Spinning Co.	155	...
American Spinning Co., pfd.	100	...
Arkwright Mills	...	100
Aragon, com.	59	...
Avondale	120	126
Arlington	130	...
Brogan Cotton Mills (new series)	...	81
Brookside	...	...
Cannon	125	...
Cabarrus	120	...
Chadwick-Hoskins	...	...
Chadwick-Hoskins, pfd.	...	101
Chiquola Cotton Mills, pfd.	80	...
Clifton, com.	80	...
Clifton, pfd.	96	100
Clara	100	...
Cliffside	190	...
Columbus Manufacturing Co.	...	85
Darlington	75	83½
Drayton	29	...
Erwin, pfd.	...	105
Easley	...	125
Exposition	...	210
Florence	125	128
Gaffney Manufacturing Co.	59	...
Gibson, com.	109	110
Gluck	...	100
Graniteville, S. C.	140	152
Grendle	...	96
Glenwood	...	150
Glen Lowry, pfd.	...	76
Highland Park	200	203
Highland Park, pfd.	...	102
Hartsville	175	195
Hartsville, pfd.	...	100
Henrietta Mills	...	117
Inman, com.	...	108
Inman, pfd.	...	100
Kesler	...	160
Lancaster Cotton Mills	130	...
Lancaster Cotton Mills, pfd.	96	...
Lanet	...	112
Laurens	127	136
Limestone	...	126
Lockhart, S. C.	...	72½
Loray Mills, pfd.	...	86
Modena	...	150
Mollohon	...	101
Monarch, S. C.	115	...
Newberry	125	...
Norris Mills	...	121
Ninety-six	130	140
Orr	...	86
Ozark	100	110
Parker Mills, com.	7	10
Parker Mills, pfd.	30	35
Parker Mills, guar.	...	88½
Pacolet Mfg. Co., com.	...	108
Pacolet Mfg. Co., pfd.	100	...
Patterson	129	...
Pelzer Manufacturing Co.	125	164
Piedmont Manufacturing Co.	150	167
Pell City, Ala.	...	80
Poe, W. F., Manufacturing Co.	100	103
Riverside Manufacturing Co.	...	78
Salisbury	150	...
Roanoke Mills	...	156
Saxon	114	...
Spartan	109	...
Toxaway	...	78
Union Buffalo, first pfd.	34	51
Union Buffalo, second pfd.	...	10
Warren Mfg. Co., com.	78	...
Warren Mfg. Co., pfd.	...	107
Washington Mills	7	...
Washington Mills, pfd.	100	...
Woodside Mills Co., com.	...	88½
Woodside Mills Co., pfd.	...	80
Woodside Mills Co., guar.	...	101
Watts	...	85
Williamson	...	125
Ware Shoals	70	...
Whitney	110	120
Wiscasset	140	150
Woodruff	...	107
Woodlawn	120	126
Young Hartsell	70	...

OTHER NEW ENGLAND MILLS

	Par Value.	Last Sale.
Amoskeag Mfg. Co., com., N. H.	100	62
Amoskeag Mfg. Co., pfd., N. H.	100	99½

Androscoggin Mills, Me.	100	137
Arlington Mills, Mass.	100	80
Appleton Co., Mass.	100	172
Bates Carpet Co., Me.	100	213¼
Bigelow Carpet Co., Me.	100	213¼
Boston Duck Co., Mass.	700	1280
Boston Mfg. Co., Mass.	100	85
Cabot Mfg. Co., Me.	100	100
Chicopee Mfg. Co., Mass.	100	90
Continental Mills, Me.	100	75¼
Dwight Mfg. Co., Me.	100	1021¼
Edwards Mfg. Co.	100	99
Essex Co., Mass.	100	187¼
Everett Mills, Mass.	100	112¼
Fisher Mfg. Co., Mass.	100	125½
Franklin Co., Me.	100	201¼
Great Falls Mfg. Co., N. H.	100	172¼
Hamilton Woolen Co., Mass.	100	95
Hamilton Mfg. Co., Mass.	100	77½
Hill Mfg. Co., Me.	100	90¼
Jackson Co., N. H.	1000	985
Lancaster Mills, Mass.	100	75
Lawrence Mfg. Co., Mass.	100	151¾
Lockwood Co., Me.	100	97
Lowell Bleachery, Mass.	100	125
Lowell Hosiery, Mass.	100	40
Lyman Mills, Mass.	100	120
Massachusetts Cotton Mills, Ga.	100	93⅛
Massachusetts Cotton Mills, Mass.	100	116
Merrimack Mfg. Co., com., Mass.	100	24⅝
Merrimack Mfg. Co., pfd., Mass.	100	83½
Middlesex Co., Mass.	100	55
Middlesex Co., pfd., Mass.	100	75
Monadnock Mills, N. H.	100	100
Nashua Mfg. Co., N. H.	500	672½
Naumkeag Steam Cot. Co., Mass.	100	172
Newmarket Mfg. Co., N. H.	100	95
Otis Mfg. Co., Mass.	1000	1852½
Pacific Mills, Mass.	100	107
Pepperell Mfg. Co., N. H.	100	305
Plymouth Cordage Co., Mass.	100	228
Salmon Falls Mfg. Co., N. H.	300	150
Shaw Stocking Co., Mass.	100	75
Suncook Mills, N. H.	100	20
Thorndyke Mfg. Co., Mass.	1000	1305
Tremont & Suffolk Mills, Mass.	100	100⅜
Waltham Bleachery & Dye Works, Mass.	100	140
York Mfg. Co., Me.	100	85

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NATURE'S MOST BEAUTIFUL WHITE

Opaqueness. Weight. Thoroughly Penetrates the Warp. Strengthens Goods.

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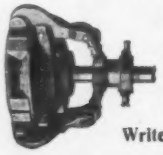
For a Friction Clutch



Some sizes as low as one dollar per horsepower. This clutch will carry 25 to 50% overload. Built any size 5 to 100 H. P.

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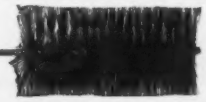

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OR HUMIDIFIER BRUSHES

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Russian bristles twisted into the wire make it impossible for the bristles to come out.

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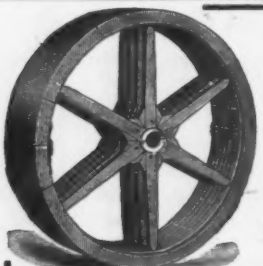

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Sales Agencies in all the Principal Cities
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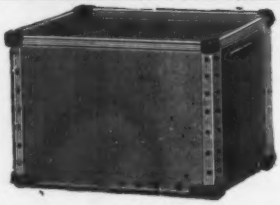

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Roving Cans
Mill Baskets
Barrels
Boxes

Will neither dent nor break when subjected to hard usage. Stronger than wood, lighter than steel. *Write for folder.*

DIAMOND STATE FIBRE CO.

Bridgeport, Montgomery Co., Pennsylvania

Branches in Principal Cities

FACTS AND GOSSIP.

.....

Arkansas, Searcy. G. A. Ward, previously reported interested in a cotton cloth mill project is making some progress.

California, Los Angeles. Harry C. Jackson, C. A. Roberts, L. M. Sullivan, E. E. Whitney, Jr., and E. S. Cummings have organized the Woodstock Cotton Mills Co., to manufacture all kinds of cotton goods. The capital stock is $1,000,000, of which $500 has been subscribed. Nothing authoritative has been learned as to the plans of the new concern, but a corporation known as the Woodstock Land Company also has been organized by the same men.

Canada, Ontario, Kingston. W. H. Wyman, formerly manager of the Corticelli Silk Company, is organizing a new concern to establish a silk plant in Kingston.

Canada, Quebec, Massueville. R. J. Reeves is making progress on his linen towel mill project which is to be organized under the name of the Canadian Crash Company. A mill will be built and equipped with 1200 spindles and 100 looms.

Canada, Quebec, Three Rivers. H. A. Halus, who is reported to be a Belgian textile manufacturer whose mills at Ghent, in East Flanders, have been destroyed, is in communication with the city of Three Rivers regarding a location for a large plant. The plan includes the construction of a model city for the employes.

*Connecticut, Central Village. It is reported the small yarn and wicking mill started by George S. Collins, will be known as the Central Cotton Yarn Company.

Connecticut, Danielson. It is reported locally that the Connecticut Mills Company has orders on hand to keep the plant busy indefinitely. Fancy Sea Island and Egyptian cotton tire fabric is manufactured.

Connecticut, Mystic. Creditors of the Mystic Silk Co. have appointed William G. L. Betsch, of William Iselin & Co., to represent them in a reorganization of the affairs of the Mystic Silk Company, which it is stated has become necessary by reason of the drop in the price of raw silk and the poor condition in the market supplied by this mills products.

District of Columbia, Washington. The Bureau of Foreign & Domestic Commerce has received from a consul information and samples of textiles that are wanted in Latin America.

*Florida, Titusville. It is hoped that plans for the projected Palmetto Products Company will be completed by January 1. It is said that a building 300 feet long by 35 feet wide may be built and that ten looms have been ordered to weave rugs from Palmetto leaves.

Georgia, Columbus. G. Gunby Jordan, president of the Eagle & Phenix Mills, is quoted as stating that new orders are piling up and local manufacturers are feeling much encouraged.

Georgia, Columbus. According to a local report the Hamburger Cotton Mills will be reorganized

Interruption of Production

is recognized by textile mill operators as the most costly element of repairs.

Allis-Chalmers TEXTILE MOTORS

are so liberally designed and so sturdily constructed that they will operate for years without need of repairs providing they are properly supplied with oil while in service.

"Motors for all drives"

Allis-Chalmers Manufacturing Company

Power and Electrical Equipments

Milwaukee - Wisconsin

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Canadian Allis-Chalmers, Limited, Toronto, Ont.

Stop The Waste

Where *fluid* oil is used to lubricate bearings the waste from leakage and the waste from stains on yarns and fabrics soon assume alarming proportions. You can stop this waste and economize your lubrication bills *by the constant use of*—

TRADE MARK REGISTERED IN
NON-FLUID OIL
UNITED STATES PATENT OFFICE

This effective lubricant, being of non-fluid consistency, **stays where put** and lubricates perfectly to the last small particle. Will not spatter and stain fabrics. Used instead of *fluid* oils, and greases, it will make your machinery more efficient as well as decrease your operating expense. Made from the highest grade mineral oils, NON-FLUID OIL is not affected by temperature but retains its consistency in any climate.

Write today for full information and FREE samples.

New York & New Jersey Lubricant Co.

165 Broadway, New York.
1430 Michigan Ave., Chicago.

and until a reorganization is effected the plant will remain closed. John A. Mitchell has resigned as president and general manager and has been succeeded by Harry L. Williams, president of the Swift Mfg. Company.

*Georgia, Winder. J. M. Williams has been elected president of the Barrow County Cotton Mills, which succeeded the Winder Cotton Mills. W. C. Horton and W. L. De La Perriere, vice-presidents; Lee S. Radford, secretary and treasurer. These men have been recently interested in leasing the Lawrenceville Mfg. Company's plant at Lawrenceville, Ga.

*Idaho, Idaho Falls. Nothing is known here of project to build a textile mill. It was reported that men claiming to represent English capital had been here looking over possible mill sites and had requested certain concessions.

Indiana, Elkhart. The Woolen Mills Company has been incorporated with capital stock of $5,000 by Harry E. Nix, Albert J. Vetter and Charles W. Vetter. It is not stated whether the new corporation will engage in manufacturing or in distributing.

Illinois, Peoria. Large orders for binder twine have been received by the Peoria Cordage Company and a night shift of operatives will be put on, it is reported. Sisal and manila cordage binder twine and rope are manufactured, with a capacity of 50,000 pounds per day.

Kentucky, Louisville. A judgment of $97,900 has been awarded the Fidelity & Columbia Trust Company, of Louisville, against the Bradford Worsted Spinning Company, also of Louisville. The plant, which is now operated under a lease by the American Woolen Company, will be sold at public suction to satisfy the judgment.

*Maryland, Baltimore. The United States Woolen Mills Co., which is having plans prepared for a 6-story brick building, is a clothing manufacturing concern.

Massachusetts, Amesbury. There are persistent rumors that the Hamilton Woolen Company's idle plant has been sold or is about to be transferred to interests that will start it up. The selectmen have received a letter which they transferred to the Board of Trade asking what the town would do as to abatement of taxes or other concessions in the event of the property being purchased and started up.

*Massachusetts, Attleboro. It was recently reported that business men of Attleboro considered taking over the business of the James Orr Dyeing & Braiding Co.,, under an arrangement with the creditors. A new corporation has been organized under the style of James Orr, Inc., with capital stock of $95,000, classified as 450 shares of seven per cent. preferred, and 500 common shares of par value $100. The incorporators are William H. Gray,, T. Baird McIlhatten, Ivyland, Pa., and Mary F. O'Neill.

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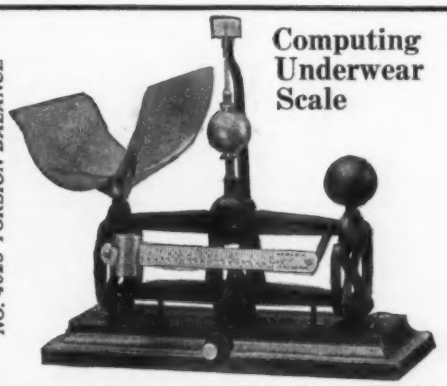

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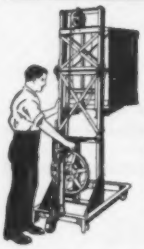
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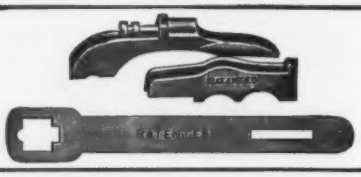

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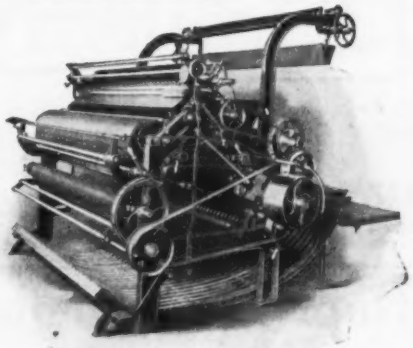

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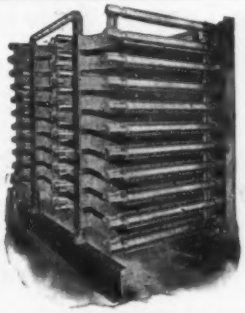

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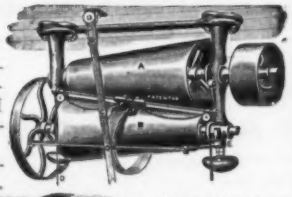

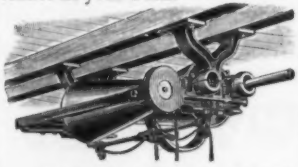

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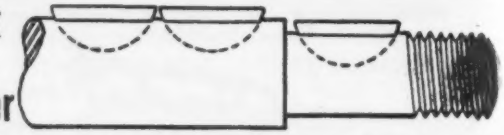

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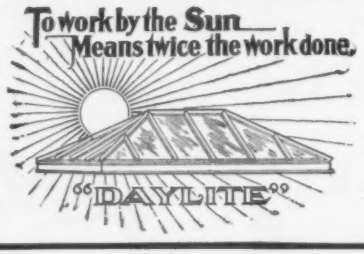

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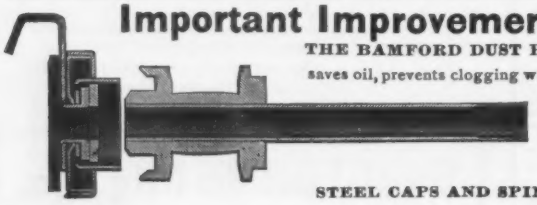

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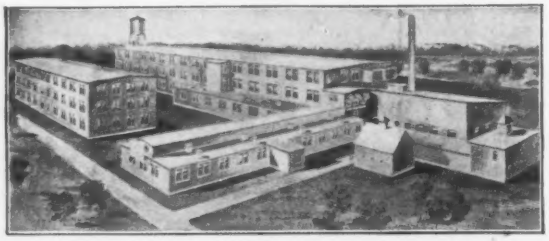

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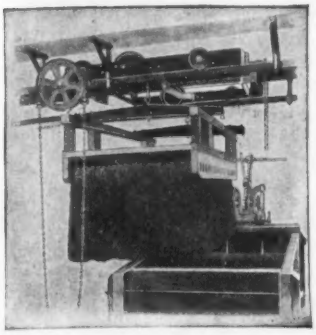

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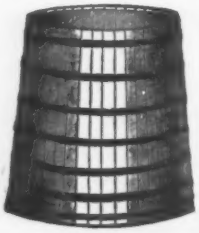

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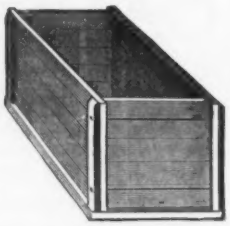

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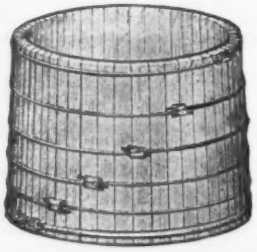

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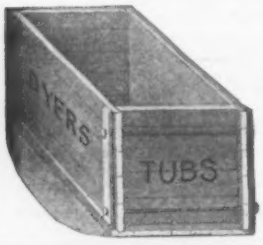

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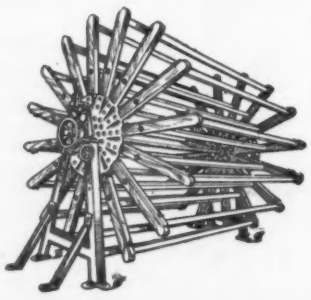

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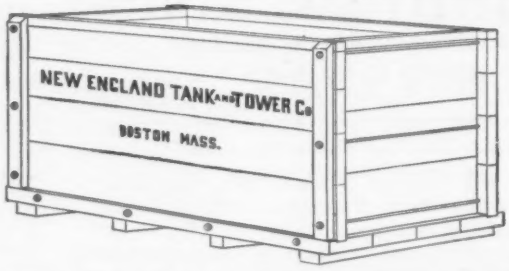

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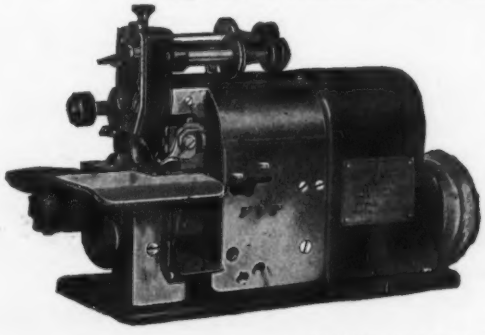

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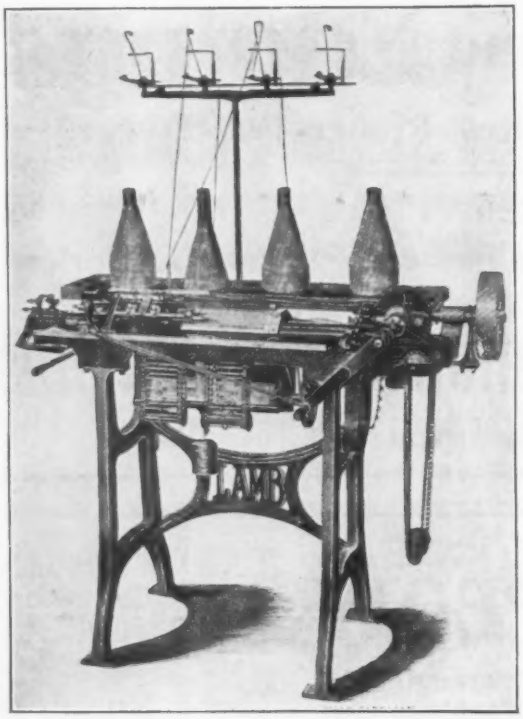

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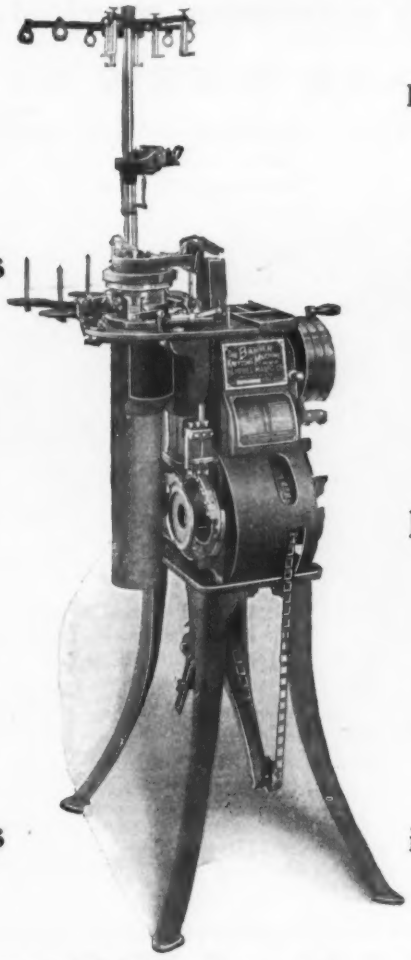

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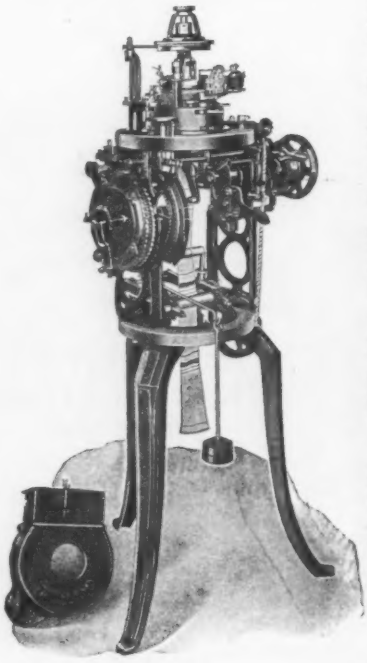

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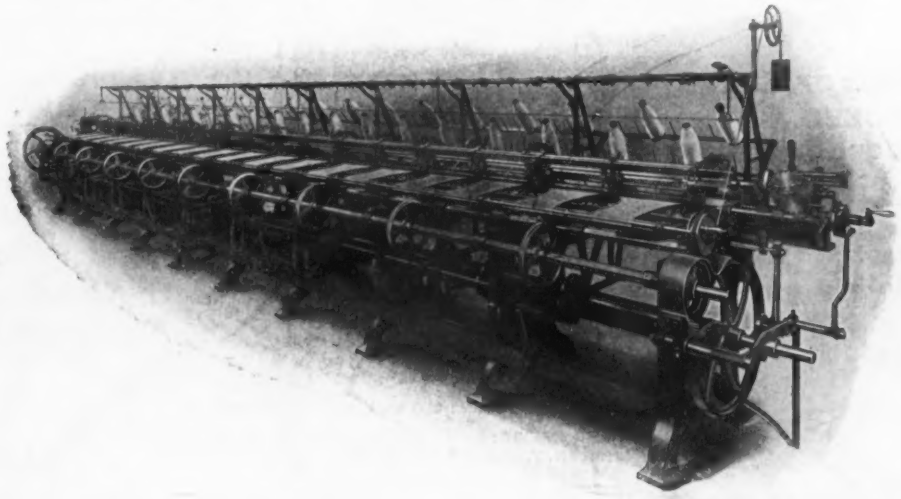

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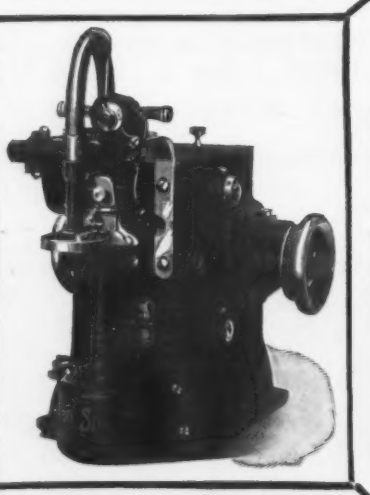

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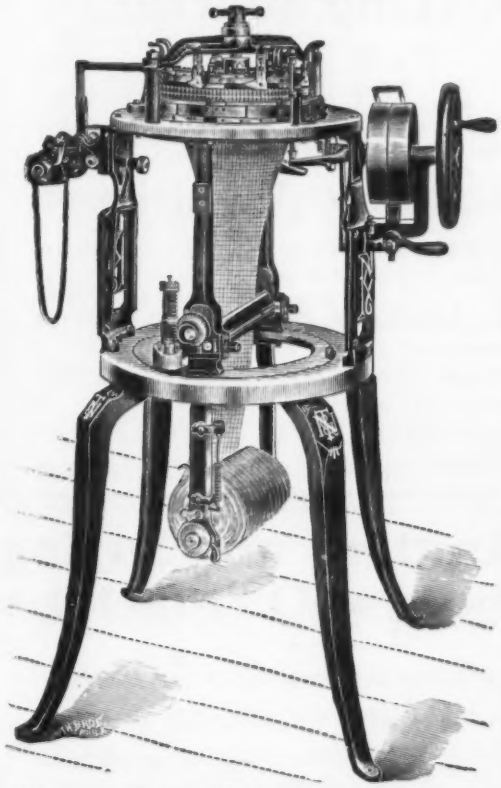

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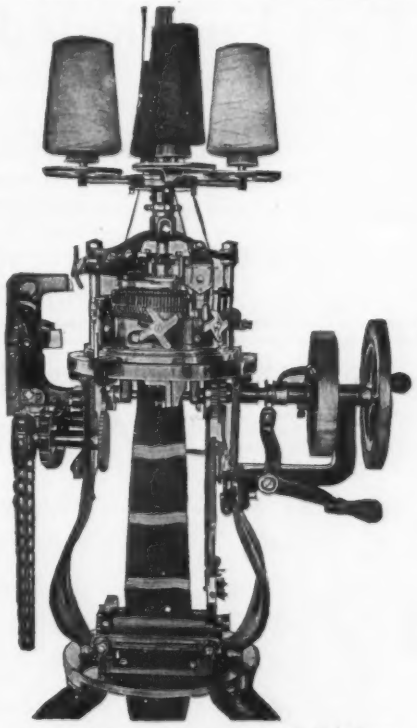

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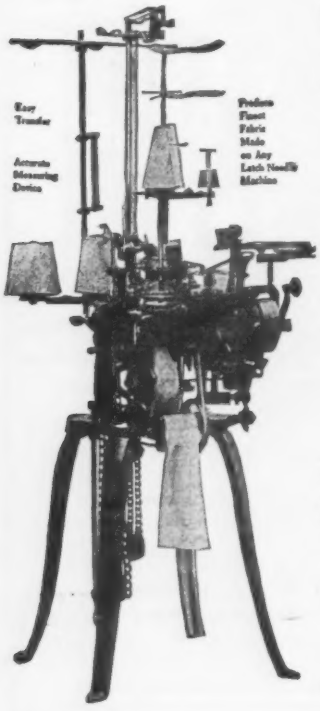

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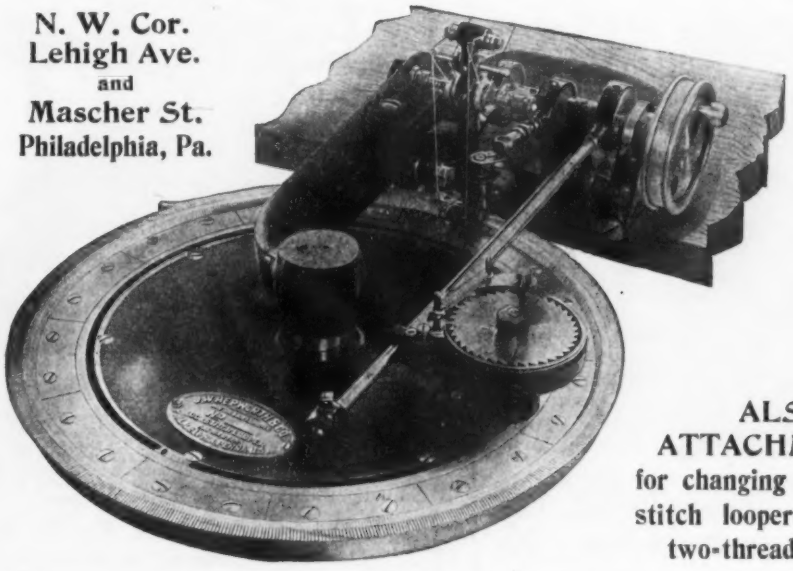

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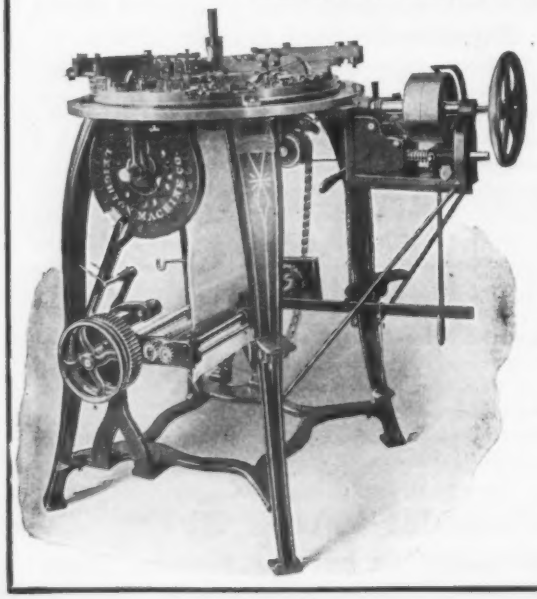

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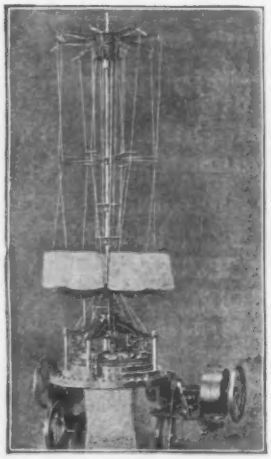

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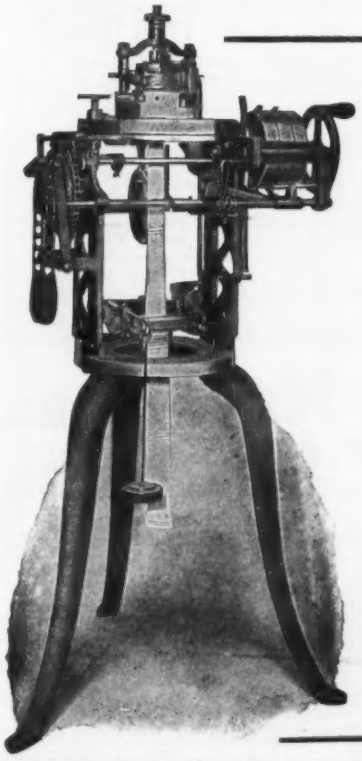

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of every kind for every purpose

HOSIERY RIBBERS

with Splicing, Striping, Two-speed, Selvage Welt and French Welt Attachments.

Full Automatic Hosiery Footers

BODY MACHINES, SLEEVERS, etc.

for Underwear, Sweaters, Toques, etc.

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for making all kinds of tubular knitted scarfs.
Write for catalog, prices and samples.

THE MOST COMPLETE LINE OF
Sweater Coat Machines

Automatic Racking Machines with or without striping attachments.
Herring Bone Stitch Coat Machines.
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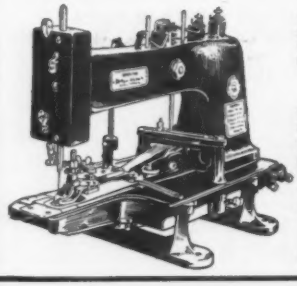
Why Do You Put Buttons on Garments?



"So the garment can be buttoned when on," you would probably reply

Then why sew buttons on in such a way that it is almost impossible to button the garment neatly, especially when starched? Why have the buttons so tight that they will not stand the wear and tear of the laundry? Why sew them without any allowance for thread shrinkage? Why do these things when with the

Elastic Stitch Button Sewing Machine

you can sew buttons neatly and uniformly with only one thread (instead of two), with an allowance for thread shrinkage, and with a raised, hand-sewed effect?

No Threads to trim. Saves 90 percent of Needle Breakage. **No Bobbins to Wind.** **Will Sew all Buttons with any Thread.**

You can save money and increase the demand for your product by sewing your buttons on with the "Elastic Stitch" Button Sewing Machine. *Send for our "List of Users" booklet.*

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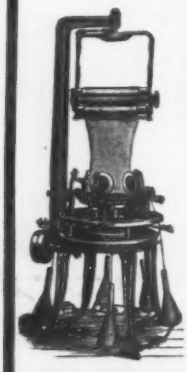

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Flat and Circular Rib, both Spring and Latch Needle, Plain Circular Machines, Lead or Trick Cylinder, **Spring Needle Cylinder Rib-Top Machines** for making Cuffs, Drawer Bottoms and Shirt Borders.

Spring and Latch Knitting Needles, Burr Wheels, Burr Blades, Sinkers, Jacks, etc.

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ALL STYLES AND KINDS FOR FLAT AND ROUND BRAIDS

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Manufacturers Like our Latch Needles

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Full Automatic Knitter

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Six Yarn Fingers

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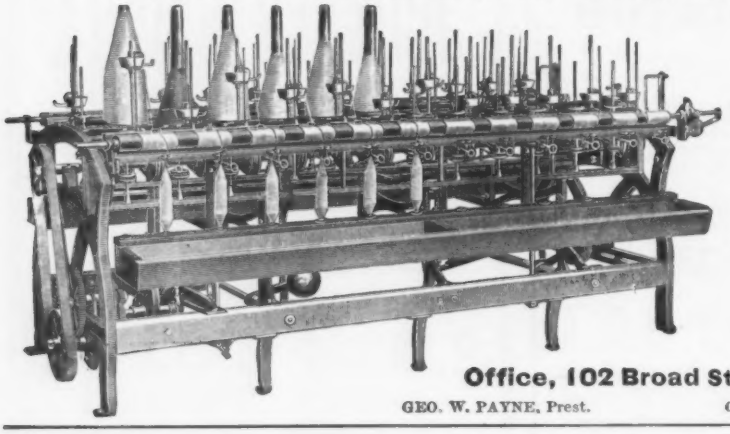

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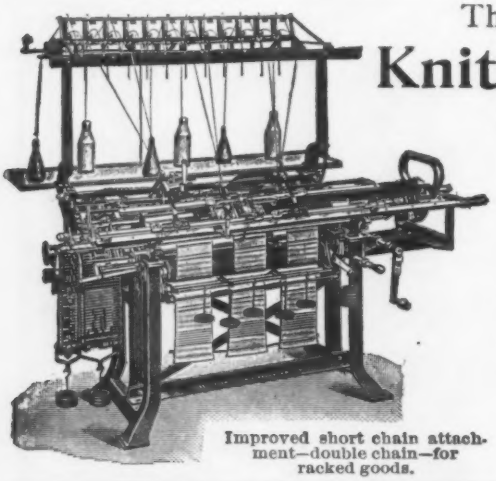

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The cut represents one of our full automatic machines with double chain, short chain attachment, doing away with the long chain and lots of blocks.

Machines for all kinds of plain and fancy knit goods by hand and full automatic by power.

Our knitting machines are far superior to any other in simplicity and construction. They give a higher production than any other on the market.

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New Jersey Wire Stitcher

Highest Grade

Machine for rapid and Economical Method of Attaching Labels to Hosiery or other Garments.

Uses pointed staples, cannot tear the finest fabric.

Send for Catalogue

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IN THE WESTERN HEMISPHERE
Of Circular Spring Needle Loop-Wheel Knitting Machinery.

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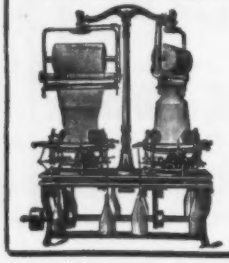
We submit the following extract from the sworn testimony of R. W. Gormly, in U. S. Circuit Court, Northern District of New York, in equity, No. 6764:

Cross Question 123. How long have you been a manufacturer of knitting machines? Answer I started in this business about the middle of May, 1900.



Tompkins Knitter

This design was adopted in 1875.

BUSINESS ESTABLISHED in 1846, before ROBERT W. GORMLEY Was born, according to his testimony in the case above cited.

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A Simple, Inexpensive Machine, for **Attaching Tickets** on **Hosiery, Underwear,** etc.

It uses a pointed staple, **CANNOT INJURE THE FINEST SILK HOSE**; can be set aside when not in use.

Is operated by foot power and has a **patented WORK-HOLDING DEVICE carrying one dozen or more pairs of hose, keeping them in perfect alignment and presenting the tops in position to receive the tickets AT LEAST TWENTY-FIVE PER CENT QUICKER** than by any other method now in use.

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There are excellent chapters on cotton baling, describing the different kinds of bales and baling processes, and on the opening and mixing of cotton in the mill, with account of different machines employed, and improved methods of mixing.

The book contains about 100 pages with 20 illustrations, and should be in the possession of every person having to do with cotton in any state, from the seed to the retail purchaser.

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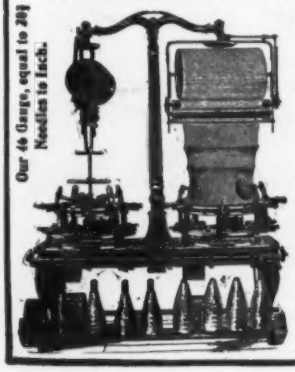

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¶ Your investigation desired.

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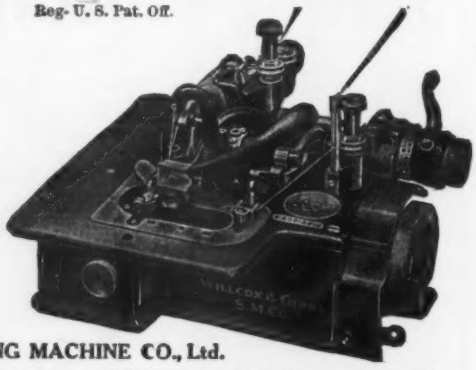

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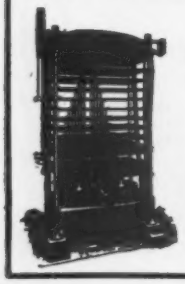

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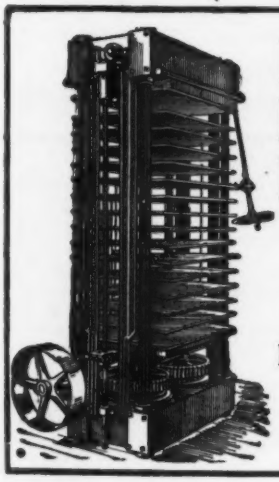

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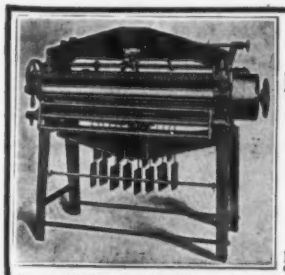

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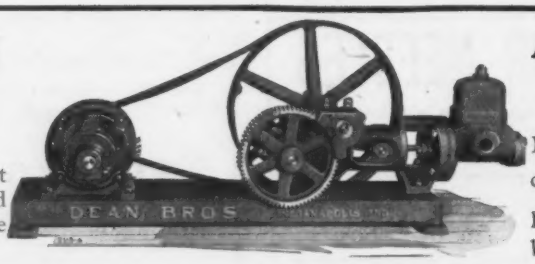

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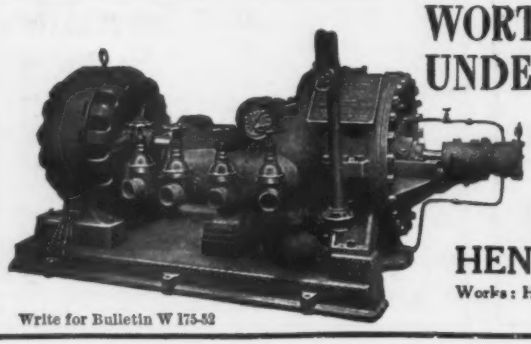

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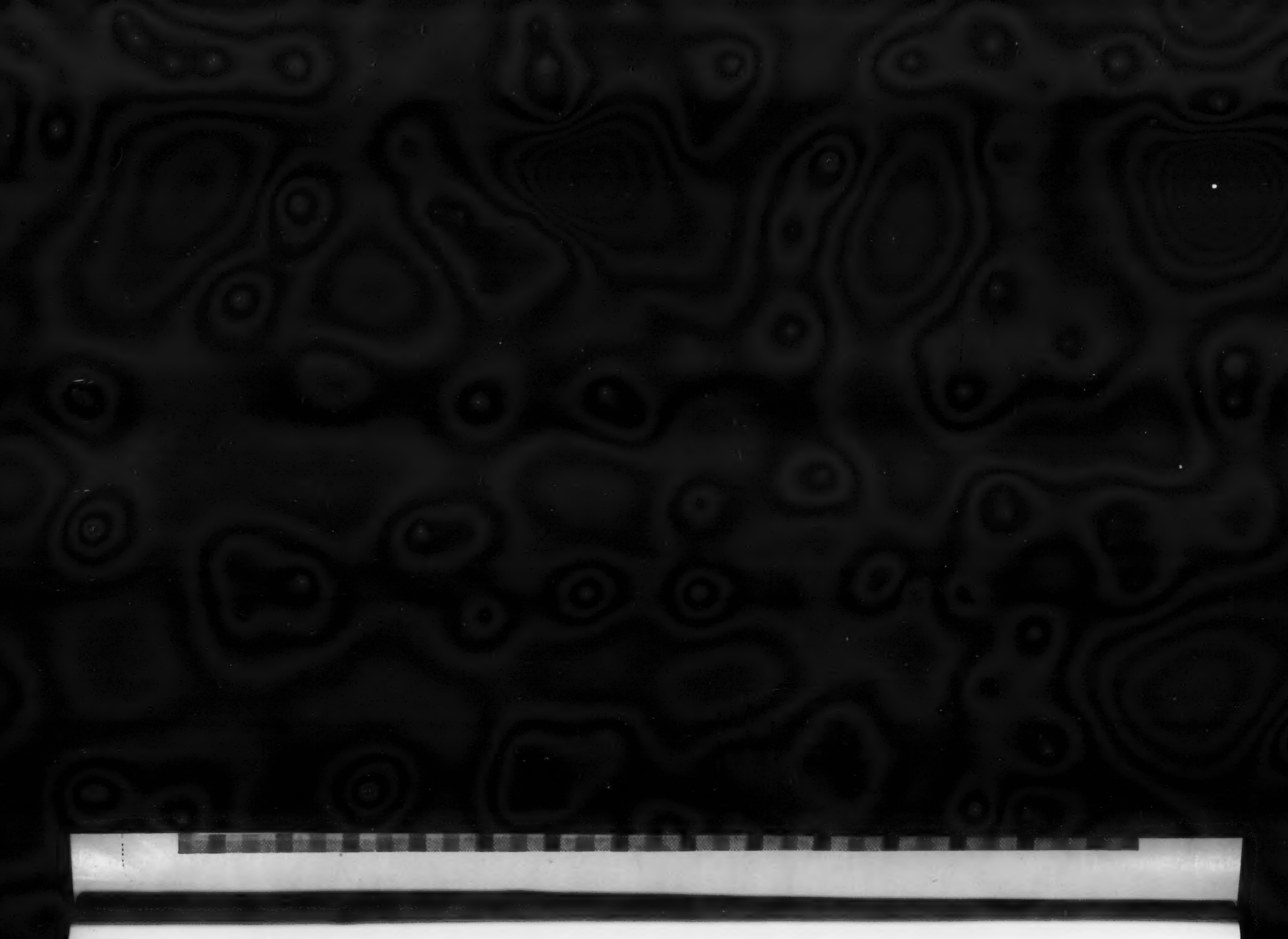

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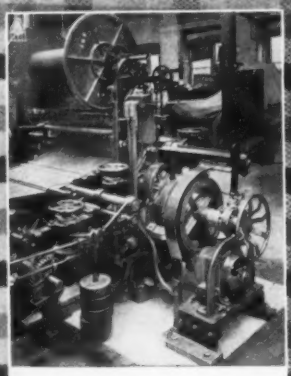

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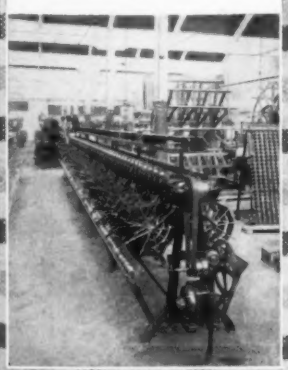

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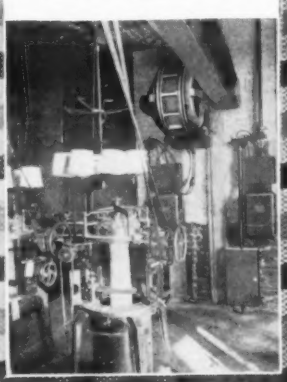

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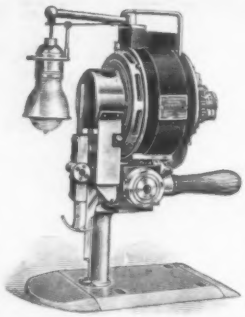

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